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This instruction establishes the packaging, testing, and materials handling responsibilities of HQ AFMC/LGTT, Traffic Management, AFMC-LSO/LOP (Air Force Packaging Technology and Engineering Facility (AFPTEF)), air logistics centers (ALC), packaging management functions within the ALCs acquisition support flights, and the Air Force product centers. It does not apply to US Air Force Reserve or Air National Guard (ANG) units or members. It sets up policies and gives guidance for packaging and materials handling requirements in contracts, data systems, design and testing, and in the reporting of discrepancies. This instruction implements policies and procedures contained in Air Force Policy Directive (AFPD) 24-2, *Preparation and Movement of Air Force Materiel.*

SUMMARY OF REVISIONS

This AFMC instruction is a complete rewrite of AFMCR 71-1.

Chapter 1

RESPONSIBILITIES

1.1. General. The primary responsibility of the Air Force Materiel Command (AFMC) is to provide acquisition and logistics support for the Air Force. To successfully accomplish this goal for packaging, the packaging management function of the acquisition support flight at each AFMC center provides worldwide packaging support for Air Force assets.

    1.1.1. The term "packaging management function of the acquisition support flight" or "packaging management function" refers to packaging experts at either ALC or product centers (attachment 1).

    1.1.2. The packaging management functions of the acquisition support flights will follow the procedures set forth in this document; Joint Publication AFR 71-6, *Packaging of Materiel;* AFPD 24-2; AFI 24-202 (formerly AFR 71-9), *Preservation and Packing*; and other packaging regulatory/procedural documents such as Joint Publication AFJMAN 24-204 (formerly AFR 71-4), *Preparing Hazardous Materials for Air Shipment,* as applicable.

    1.1.3. Packaging definitions and sources of packaging guidance are in attachment 1.

1.2. HQ AFMC Packaging Policy Responsibilities. AFPD 24-2 contains information regarding HQ AFMC responsibilities. HQ AFMC packaging policy is located in the Transportation Division (HQ AFMC/LGT), Traffic Management Office at HQ AFMC/LGTT, 4375 Chidlaw Road, Suite 6, Wright-Patterson AFB OH 45433-5006. The following are general responsibilities related specifically to AFMC:

    1.2.1. Follow policies and procedures set forth by higher headquarters.

    1.2.2. Establish and monitor AFMC procedures on packaging, with emphasis on standardizing procedures, cost effectiveness, and overall improvement/simplification. Coordinate procedures with appropriate Air Force organizations and military services/agencies. Participate in the development of Air Force packaging policies and procedures.

    1.2.3. Exercise staff management over AFMC packaging programs. Provide technical directions, plans, and programs for the life cycle of Air Force materiel. Develop proactive procedures to ensure AFMC implements new Department of Defense (DoD) or Air Force directives quickly.

    1.2.4. Participate on military service/agency and industry packaging groups to develop regulatory, procedural, or standardized efforts to enhance the AFMC packaging mission.

    1.2.5. Evaluate and implement AFMC field recommendations for changes or improvements to Air Force packaging policies when appropriate. Forward recommendations, through HQ AFMC/LGTT, to the Air Force Packaging Policy office at AFMC-LSO/LOPP, 5215 Thurlow Street, Wright-Patterson AFB OH 45433-5540, for action if recommendations have Air Force-wide application.

    1.2.6. Participate in the development, revision, and implementation of packaging training programs to maintain a proficient AFMC packaging capability.

    1.2.7. Encourage AFMC use of environmentally sound packaging practices and reusable containers.

    1.2.8. Evaluate AFMC recommendations for standard material and container sizes based on factors such as anticipated use, projected need and availability at Air Force installations, cost savings, existing sizes and materials, etc.

1.2.9. Serve as command focal point for lessons learned in the area of packaging. Submit AFMC packaging lessons learned to ASC/CY, Wright-Patterson AFB OH 45433-5000.

1.2.10. Evaluate requests for new AFMC packaging data system applications, keeping DoD, Defense Logistics Agency (DLA), and Air Force initiatives in mind prior to approval.

1.2.11. Update common item and clear-text tables in the stock control and distribution (SC&D) system (see Chapter 6).

1.3. Air Force Test, Design, and Evaluation Activities. The Air Force maintains in-house packaging design, prototype, test, and evaluation capabilities. This capability can be used developmentally or to solve packaging engineering problems.

1.3.1. The Air Force Packaging Technology and Engineering Facility (AFPTEF), AFMC-LSO/LOP, 5215 Thurlow Street, Wright-Patterson AFB OH 45433-5540, is the central packaging engineering organization for the Air Force. They provide the primary source for packaging engineering develop-ment, investigation, test, and evaluation of specialized containers, materials, methods, and techniques.

1.3.2. The Packaging and Transportation Division (ASC/VXTC), Building 614, 102 West D Ave, Suite 168, Eglin AFB FL 32542-5313, is co-located with the primary Air Force munitions customer. They have in-house design and prototype and development capabilities, specializing in reusable shipping and storage containers for munitions.

1.3.3. The Container Design Retrieval System Management Office (CDRS/MO) maintains a com-puterized data record of existing specialized containers, corresponding design drawings, and information. These are used for technical analysis and container reuse applications, thus reducing acquisition costs and increasing the options available to the procurement activity. Additionally, it acts as a central focal point for DoD container information. CDRS/MO can be contacted through ASC/VXTC, Attn: CDRS/MO, Building 614, 102 West D Ave, Suite 168, Eglin AFB FL 32542-5313.

1.3.4. Chapter 7 contains additional information on test and design capabilities, and assistance will be found in Chapter 7.

1.4. Responsibilities of the Packaging Management Functions of the Acquisi tion Support Flights. Packaging management function personnel will:

1.4.1. Establish management procedures consistent with DoD, Air Force, and AFMC policies and procedures to accomplish the assigned mission. Review higher level and local directives to determine their application to the packaging program. Implement applicable higher HQ directives, policies, and procedures through local supplements or operating instructions.

1.4.2. Develop, obtain, and maintain packaging data for assigned items. Provide technical assistance to AFMC product center personnel and user commands. Approve contractor-prepared packaging data for use when acceptable.

1.4.3. Provide packaging, handling, storage, and transportability (PHS&T) input to planning and program documents. Review operational concepts to ensure that packaging considerations have been addressed. Provide PHS&T input to Requests for Proposals (RFP), Statements of Work (SOW), Contract Data Requirements Lists (CDRL), and Instructions to Offeror (ITO) for all acquisition phases.

1.4.4. Support data call requirements/data requirements review boards (DRRB) to ensure packaging data item descriptions (DID) are included in contractual documents when it has been determined to be advantageous to procure packaging data from contractors.

1.4.5. Coordinate with product centers on packaging requirements for acquisition contracts.

1.4.6. Serve as the technical advisor for Air Force packaging matters at the ALCs.

1.4.7. Evaluate contractor PHS&T proposals during source selection. Develop, obtain, and maintain procedures to ensure that adequate, cost-effective packaging is developed or provided for new systems and equipment. Assist program managers to ensure Air Force packaging objectives are met during research, development, test, and production.

1.4.8. Establish and maintain liaison with the commercial packaging industry. Evaluate commercial packaging methods and materials to reduce costs. Maintain contact with product centers, other commands, military services/agencies, and industry to advance state-of-the-art packaging and to promote understanding of the policies and procedures related to military packaging. Send requests for evaluation, development, and possible Air Force application of new materials and containers to AFMC-LSO/LOP AFPTEF or ASC/VXTC, as appropriate. Prior to sending requests, research the joint service document AFR 71-6, to determine the lead activity responsible for the material or container.

1.4.9. Establish and maintain the ability to evaluate new or revised packaging methods and procedures for assigned items. Use the Computer Aided Design System (CADS) to assist in the development evaluation process. Send packaging design and application problems which exceed local capabilities to AFMC-LSO/LOP AFPTEF or ASC/VXTC as appropriate.

1.4.10. Establish and maintain a program to minimize deficiencies that result from improper packaging of Air Force items. Analyze trends in SF 364, **Report of Discrepancy (ROD),** Quality Deficiency Reports (QDR), and Material Deficiency Reports (MDR) to determine if changes to the prescribed packaging requirements are needed (see Chapter 9).

1.4.11. Establish and manage a method of packaging cost analysis to ensure economical, yet adequate, protection throughout the life-cycle of the material. Investigate the potential applications for standardized containers or methods to keep costs down. When requested by ALC contracting personnel, other commands and military services/agencies, provide estimated costs based on packaging services contracts or obtain estimated costs from Defense Distribution Depot packaging operations. Send recommendations for standard packaging materials and containers (such as fast packs, standard packs, and standard container sizes) to AFMC-LSO/LOP AFPTEF. Include information that will assist their evaluation, such as anticipated usage, availability, cost savings, etc.

1.4.12. Use and support approved packaging data systems. Contact HQ AFMC/LGTT, Traffic Manage-ment, prior to upgrading or developing packaging data systems or developing system applications that impact or interface with packaging data systems.

1.4.13. Work closely with the ALC career development office to ensure packaging management function personnel receive effective training, or to establish a local training program. Work with AFMC-LSO/LOPP, Packaging Policy, to ensure that DoD packaging courses meet Air Force needs.

1.4.14. Participate in program reviews and audits, such as preliminary design reviews (PDR), critical design reviews (CDR), configuration audits (CA), and other committees/meetings as appropriate to

ensure adequate packaging coverage. Participate in field visits to using commands and industrial facilities during research, development, and test, as appropriate.

1.4.15. Act as a point of contact for projects and field investigations requested in support of AFMC-LSO/LOP AFPTEF.

1.4.16. Maintain graphics support capability, including drafting, technical illustration, and CADS. Maintain responsibility for the local operation of the CADS.

1.4.17. Advise AFMC-LSO/LOPP of any packaging problems/solutions.

1.4.18. Prepare specifications, SOWs, and test plans for specialized containers.

1.5. Product Center Packaging Responsibilities. Personnel at AFMC product center packaging management functions will:

1.5.1. Establish management procedures consistent with DoD, Air Force, and AFMC policies and procedures to accomplish the assigned mission. Review higher level and local directives to determine their application to the packaging program. Implement applicable higher HQ directives, policies, and procedures through local supplements or operating instructions.

1.5.2. Serve as technical advisor for Air Force packaging matters at the product centers. Assist program managers to ensure Air Force packaging objectives are met during research, development, test, and production.

1.5.3. Provide PHS&T input to planning and program documents. Review operational concepts to ensure that packaging considerations have been addressed. Provide PHS&T input to RFPs, SOWs, CDRLs, and ITOs for all acquisition phases.

1.5.4. Support DRRBs to ensure packaging DIDs are included in contractual documents when it has been determined it is advantageous to procure packaging data from contractors.

1.5.5. Assist the applicable ALC packaging management function personnel in preparation of specifi-cations, SOWs, and test plans for specialized containers.

1.5.6. Evaluate contractor PHS&T proposals during source selection. Develop, obtain, and maintain procedures to ensure that adequate, cost-effective packaging is developed/provided for new systems and equipment. Coordinate with ALC packaging management function personnel as necessary.

1.5.7. Participate in program reviews and audits, such as PDRs, CDRs, CAs, and other committees/ meetings as appropriate to ensure adequate packaging coverage. Participate in field visits to using commands and industrial facilities during research, development, and test, as appropriate.

1.5.8. Establish and maintain liaison with the commercial packaging industry. Evaluate commercial packaging methods and materials to determine adaptability. Exchange information with the ALCs packaging management functions, other commands, military services/agencies, and industry to advance the state-of-the-art packaging and to promote understanding of policies and procedures related to military packaging. Send requests for evaluation, development, and possible Air Force application of new materials and containers to AFMC-LSO/LOP AFPTEF or ASC/VXTC, as appropriate. Prior to sending requests, research the joint service document AFR 71-6 to determine the lead activity responsible for the material or container.

1.5.9. Establish and manage a method of packaging cost analysis to ensure economical, yet adequate, protection throughout the life-cycle of the material. Investigate the potential applications for standardized containers to keep costs down, consulting with AFMC-LSO/LOP AFPTEF or ASC/VXTC, as appropriate. When requested by ALC contracting personnel, other commands, or military services/agencies, the depot will provide estimated costs on packaging services contracts or obtain estimated costs from Defense Distribution Depot packaging operations.

1.5.10. Work closely with the center career development office to ensure effective training is provided (or a local training program is established) for personnel involved with packaging. Work with AFMC-LSO/LOPP to ensure that DoD packaging courses meet Air Force needs.

1.5.11. Coordinate acquisition packaging requirements for new systems and equipment with ALCs.

1.5.12. Advise AFMC-LSO/LOPP of any packaging problems/solutions.

Chapter 2

AFMC PACKAGING MANAGEMENT FUNCTION COORDINATION AND CONFERENCE PARTICIPATION

2.1. General. The packaging management function personnel at the ALCs and product centers should coordinate their efforts to maintain the integrity of the Air Force packaging program from cradle-to-grave. They must comply with contracted data items, and also:

- MIL-STD-1366, *Definition of Materiel Tranportation System Dimensional and Weight Constraints.*
- MIL-STD-1367, *Packaging, Handling, Storage, and Transportability Program Requirements (for Systems and Equipment).*
- MIL-STD-1388-1, *Logistics Support Analysis.*
- MIL-STD-1388-2, DoD Requirements for a Logistics Support Analysis Record.
- MIL-STD-2073-1, *DoD Materiel Procedures for Development and Application of Packaging Requirements.*
- MIL-STD-2073-2, *Packaging Requirement Codes.*
- Other acquisition-related documents for all new and modified systems, equipment, and materiel to ensure adequate packaging support throughout the life-cycle.

2.2. AFMC Product Centers. Packaging management function and transportation personnel are located within the AFMC product centers. These personnel support acquisition logistics by providing their expertise and developing packaging procedures, concepts, and objectives for Air Force systems and equipment during acquisition.

2.2.1. Packaging is a function which should be closely coordinated with the actual design and manufacture of an item. Proper PHS&T must be identified during acquisition as part of integrated logistics support (ILS) planning. This identification must be made as early as possible in the acquisition life-cycle.

2.2.2. To manage acquisition of systems/equipment effectively, PHS&T problems which may restrict movement to specific modes of transportation or cause unnecessary packaging must be identified and corrected, or avoided, during item design rather than corrected through costly engineering change proposals (ECP).

2.2.3. Since transportability is a function of both transportation and packaging, the packaging management function ensures that both disciplines are considered during coordination of transportability reports submitted by the contractor.

2.3. AFMC ALCs. Packaging management function and transportation personnel are located within the ALCs acquisition support flights. Immediately upon assignment of responsibility to an ALC, the ALC packaging management function will designate a packaging specialist. The appropriate program man-ager will be advised of this assignment in writing to ensure coordination on matters related to packaging and handling requirements for the system.

2.3.1. A packaging specialist from the supporting ALC shall be included as an active member of the ILS team to participate in the acquisition effort. This ensures that, during interim design and acquisi-

tion, proper consideration is given to factors which may create unnecessary packaging and handling problems during logistics support.

2.3.2. The prime packaging management function assists the product center and reviews technical packaging and handling data. ALCs should maintain communication and coordination with the packaging personnel in the product centers to ensure optimum standardization and economy is achieved in the packaging and handling aspects of system development and acquisition.

2.4. Committees, Reviews, and Reports. A representative from the packaging management function having life-cycle management responsibility will participate in committees or meetings as required to ensure adequate packaging considerations. When it increases the continuity of the AFMC packaging program, representation will be encouraged by both the ALC and product center packaging management function personnel. These include, but are not limited to:

2.4.1. PDRs, CDRs, First Article Configuration Inspections (FACI)**.** Packaging management function personnel participate in PDRs, CDRs, FACIs, and test programs which impact upon the packaging and handling support required of AFMC.

2.4.1.1. This is an area which requires continuous coordination between the ALC and the product center to ensure the appropriate packaging specialists are advised of, and actively participate in, these reviews whenever packaging or handling is involved.

2.4.1.2. Details concerning proposed preservation and packing are provided by the contractor in the preparation for delivery section of part II of the configuration item (CI) specification. These specifi-cations are prepared for the more complex items of equipment and spares. CI specifications may also be required for containers which are not covered by existing military specifications or when they involve special requirements in terms of materials, added features, etc. The formal approval and acceptance of part II of the CI detail specification is a product of the FACI.

2.4.2. Critical Item Review (CIR) Committee. Packaging management function personnel will participate in CIRs to identify and prevent unfavorable conditions attributable to packaging and handling. Packaging and handling problem areas identified with a system will be reported to the program manager, or item manager (IM), as appropriate. Participation is also recommended on logistics support preliminary task groups.

2.4.3. Participation During Development, Test, and Technical Evaluation of Systems/Equipment. Packaging management function personnel provide packaging support for research and development. They also provide AFMC packaging requirements for installs and items bought for test purposes. The packaging management function personnel participate in the evaluation of systems, component design, and performance during development, test, and production phases, as required, to ensure conformance with logistics transportability and mobility objectives, transportation plans, and logistics packaging handling requirements.

2.4.4. Operational Test and Evaluation (OT&E). Evaluation of the contractor's proposed preservation and packing is based upon AFMC PHS&T criteria previously established and incorporated into applicable contractual and planning documents. Special test requirements or requests for changes in AFMC or contractor test criteria are provided to the program office (or designated representative) for inclusion in contracts. To ensure proper coverage and evaluation during initial OT&E, packaging management function personnel supporting the program office will prepare a preservation and packing checklist and participate in the evaluation as required.

2.4.5. Reports/Evaluations. Evaluations of system components, support equipment design, or requested changes are developed in conjunction with inspections and tests. They are provided through established channels to the program office. Evaluations are based upon packaging requirements; and ease of handling, mobility, and transportability. Examples of factors to be considered during evaluations include, but are not limited to:

2.4.5.1. In the design effort, overall dimensions of the system and components should be minimized to reduce problems of PHS&T. Where practical, configuration must permit movement by alternate methods, and provisions must be made to permit disassembly of containers and equipment to reduce cube and tare for shipment.

2.4.5.2. All containers or handling devices for the systems or equipment should be compatible with related handling systems' loading requirements to allow for quick transfer between transportation modes, interchangeability, and standardization.

2.4.6. Participation in Guidance Meetings. Representatives from the packaging management functions must actively participate in scheduled provisioning and support equipment guidance conferences. Their role is to provide general assistance that will help the contractor comply with the logistics packaging requirements for spares and repair parts acquired as part of the contract. They also provide guidance concerning logistics requirements for packaging and handling of support equipment.

2.4.7. Provisioning Conferences. The packaging management function provides packaging support, as required, for items being acquired according to a spare and repair parts provisioning document affixed to the contract.

2.4.7.1. When items are to be acquired through provisioning action, the AFMC Form 158, **Packaging Requirements**, will be completed to require contractor development and submission of data, subject to the option of the ALC to develop data during source coding conferences.

2.4.7.2. When economically feasible, packaging management function personnel participate in source coding and provisioning meetings to establish detailed packaging requirements and to resolve problems concerning packaging of Air Force selected and managed items. These items are maintenance source-coded in the "P" series and parts kits-coded "D" or "F." Definitions of maintenance source codes are listed in TO 00-25-195, *Source, Maintainability, and Recoverability Coding of Air Force Weapons, Systems, and Equipment*. This support is provided during meetings convened by the ALC and the resident provisioning teams.

2.4.7.2.1. Responsibilities of Participating ALCs. Detailed packaging data should be developed for all items to be managed by an ALC. Upon notification of source coding conference, the participating packaging management function personnel contact the other ALCs with management responsibility for items being considered during the conference. The participating ALC will request participation or delegation of packaging responsibilities.

2.4.7.2.2. Source Coding by Depot Provisioning Committee. When source coding is accomplished by a depot provisioning committee, an ALC packaging specialist participates in the meeting and determines and specifies detailed packaging requirements for those managed items coded for acquisition.

2.4.7.2.3. Source Coding/Provisioning at Contractor Facilities. When provisioning for new items are held at the contractor's facility, the packaging management function personnel can develop and furnish detailed packaging data to the contractor on DD Form 2326, **Preser-**

vation and Packing Data. Participation of the packaging management function personnel in these meetings is important. Postprovisioning meetings may be arranged for packaging management function development of data if that alternative is more suitable to both the contractor and the ALC.

2.4.7.2.4. Provisioning Under Resident Provisioning Team (RPT) Procedures :

2.4.7.2.4.1. During the provisioning guidance meeting,

representatives of the contract administration office, contractor, and ALC arrange details concerning the scheduling of packaging management function personnel visits to the contractor's facility to develop packaging requirements.

2.4.7.2.4.2. Packaging management function personnel will visit the contractor's facility as necessary to determine packaging requirements for items coded for Air Force management. Procedures must be established to ensure that the contractor is either provided with detailed packaging data or with authority to proceed with development of packaging data within mutually agreed upon time limits.

2.4.8. Funding for Provisioning Conference Attendance. Although participation of packaging management function personnel in source coding and provisioning meetings is normally encouraged, there will be some occasions when the small number of items involved may not justify attendance. The ALCs should use their discretion in determining cost effectiveness of attendance. Travel funds required to attend these meetings must be projected sufficiently in advance so they can be included in the budget for the appropriate time period.

Chapter 3

CONTRACTUAL PACKAGING REQUIREMENTS

3.1. General. The packaging management functions of the acquisition support flights are responsible for providing contractual packaging requirements for initial systems acquisition and spares support. They must also ensure economical and adequate protection of items which are acquired through local purchase procedures. (This includes contracting documents initiated by AFMC, as well as other Air Force commands, government agencies, and departments.) It is essential that the packaging requirements provided for contracting purposes be complete, accurate, and in compliance with DoD, Air Force, and AFMC packaging policies/procedures and international and federal law.

3.1.1. PHS&T requirements for major systems and equipment acquired by AFMC are normally reflected in SOWs and other contractual documents developed by AFMC.

3.1.2. Packaging requirements for the spares and repair parts being acquired as part of the systems or equipment acquisition are established by ALC packaging management function personnel and submitted for inclusion into SOWs.

3.1.3. Standard clauses and specifications should be contractually invoked whenever they satisfy Air Force needs. Action is initiated to update or revise any specification found to be inadequate or outdated. The preparing activity or Air Force custodian should be notified if specifications or standards are found to be outdated.

3.1.4. When packaging requirements cannot be satisfied through standard clauses and specifications, special requirements may be developed on a one-time basis. Special requirements for contractual stipulation may include, but need not be limited to, the following:

3.1.4.1. Specific handling features to be provided (for example: lifting eyes, skids, fixtures for handling damaged aircraft, etc.).

3.1.4.2. Specific packaging, handling and transportation plan exhibits to be used as a basis for contractor transportability design considerations.

3.1.5. Military specifications and standards referenced in AFMC or contractor-prepared packaging documents should be reviewed to ensure they contain adequate, but not excessive, provisions for packaging support.

3.1.6. Purchase Requests (PR), Military Interdepartmental Purchase Requests (MIPR), and other contractual documents for hardware, spares, supplies, etc., should be routed through the packaging management function for inclusion of packaging requirements. All contract changes, change orders, amendments, or supplemental agreements involving packaging must be coordinated with packaging management function personnel. However, nonmaterial purchases such as services, studies, and changes in funds do not need to be coordinated with the packaging management function. Appropriate pack-aging forms will be completed according to instructions contained herein, attached to the acquisition document, and forwarded to the appropriate PR/MIPR control office for inclusion in the contractual document. (This process may be automated if an automated purchase request system is used.)

3.2. Levels of Protection. Attachment 2 contains Air Force recommended packaging levels of protection for various distribution patterns. The table should be used as guidance only.

3.2.1. Packaging management function personnel must use their expertise and personal knowledge of anticipated distribution patterns for the materiel when specifying levels of protection. Designation of improper level of packaging could result in:

    3.2.1.1. Over packing and unnecessarily increased costs.

    3.2.1.2. Damage caused by lack of adequate protection.

3.2.2. In some cases, complete information concerning destination or anticipated length of time in storage is not furnished to the packaging management function with the contractual document. An example of this is when items are intended for installation, but it is not indicated whether the parts will be installed within CONUS or overseas. When complete details are not furnished with the contractual document, packaging management function personnel will conduct research to determine most economical level of protection based on anticipated distribution/logistics conditions. Information pertaining to anticipated use, length of time in storage, and destination may be on the PR/MIPR or may be available from the initiator of the contractual document.

3.2.3. When stipulating packaging requirements for items which have been designated for immediate use, caution should be exercised to ensure that total storage time will be limited to less than 6 months.

3.3. Base Level Contracting. When requested, packaging management function personnel assist and provide guidance to the base contracting personnel to ensure that items acquired through local purchase procedures are provided economical and adequate protection. Commercial packaging may be adequate for items acquired through local purchase since they are intended for immediate consumption on base. However, care must be exercised to ensure the packaging complies with federal and international regulations, particularly in the hazardous materials area.

3.4. Contractual Requirements in Support of Security Assistance Programs. Emphasis on the importance of the Security Assistance Program is required to ensure that materiel is afforded adequate protection.

3.4.1. Normally, materiel shipped in support of the Security Assistance Program is given level A preservation and no less than level B packing. However, it is proper to increase or decrease the level of packing at the request of the recipient country. The degree of preservation and packing provided must ensure safe delivery of material in serviceable condition.

3.4.2. Lower levels of protection will not be used unless authorized in writing by the requesting country, except as specified by this paragraph. When it is specified on the PR/MIPR that items will be installed within the CONUS, it is proper to specify a lower level of preservation and packing which will furnish the required protection at the point of use or installation.

3.5. Contractual Packaging Requirements . Packaging requirements may either be specified in the contract or action may be initiated to procure the data from the contractor.

3.5.1. Packaging management function personnel are responsible for furnishing contractual packaging data for each item being reprocured. This data is extracted from existing data files when available. However, when current approved packaging data is not available in local data files, requirements can be determined from MIL-STD-2073-1/2, from reviewing item drawings or technical data, or from physically examining items currently in stock. The AFMC Form 158 is the vehicle used to specify contractual packaging requirements.

3.5.2. When new items are being bought and approved packaging data is not available and cannot be developed in-house, the required data may be procured from the contractor. Packaging management function personnel determine whether it is practical and economical to obtain contractor-developed data. The DD Form 1423, **Contract Data Requirements List (CDRL),** is used to document requirements for data items invoked to buy contractor-prepared data. To minimize costs, it is important to verify that the contractual stipulation of packaging specifications, requirements, data items, etc., are accurate, up-to-date, and necessary.

3.5.3. Evaluate contractor recommendations regarding data requirements. Coordinate/develop and submit necessary requirements to the program manager for inclusion in contractual work statements. Review and approve contractor submitted packaging data prior to acceptance or entry into AFMC data systems (such as the SC&D system).

3.5.4. The appropriate level of packaging and quantity per unit pack (QUP) can be stipulated for contractual compliance without requiring the contractor to develop and submit packaging data. This practice is most effective when the item will be stored at the ALC and the data can be developed later. This procedure may be most suitable when a small number of items are being procured and no provisioning action is involved. However, in order to best assist the contractor in providing items with adequate protection, as much data as possible should usually be furnished to the contractor.

3.6. Procuring Packaging Data From Contractors. Data calls are used to identify the need to procure various data from the contractor as part of the contract. When it is in the best interest of the Air Force for the contractor to develop packaging or transportability data, packaging management function personnel will determine minimum essential data item requirements and provide them as specified in the data call.

3.6.1. DIDs. DIDs are specified in the contract to instruct the contractor as to the information and format required for the appropriate data being procured. The only packaging DIDs that can be provided in response to a data call are those listed in the current edition of the Acquisition Management Systems and Data Requirements Control List (AMSDL) of DoD List 5000.19-1 or otherwise approved according to AFR 310-1, *Management of Contract Data.* DD Form 1423 is used to annotate specifics about data delivery, routing, number of copies required, and tailoring requirements. The DD Form 1423 can only be used to tailor requirements out of the DID or to clarify what is already in the DID. It cannot be used to add requirements to the DID.

Major Packaging DIDs. The major packaging DIDs include:

3.6.1.1. DI-PACK-80120A, *Preservation and Packing Data.*

3.6.1.2. DI-PACK-80121A, *Special Packaging Instructions (SPI).*

3.6.1.3. DI-PACK-81059, *Performance Oriented Packaging Test Report.*

3.6.1.4. DI-PACK-80683, *Container Design Retrieval System (CDRS) Search Request.*

3.6.1.5. DI-PACK-80684, *Container Design Retrieval System (CDRS) Data Input.*

3.6.1.6. DI-L-7137, *Packaging Kit Contents List.*

3.6.1.7. To obtain transportability information from the contractor, specify DI-PACK 80880A, *Transportability Report.*

3.6.2. Performance Oriented Packaging (POP) Test Reports. Test reports for POP can be obtained by stipulating DI-PACK-81059. It is not mandatory to ask for a contractor's POP test report when procur-

ing hazardous materials packaging data. However, it may be in the best interest of DoD to request a contract POP test report when procuring contractor-developed packaging data to ensure the contractor's proposed container design can pass POP tests.

3.6.3. Category E DIDs. Consideration will be given to requesting a copy of data submitted according to DIDs in category E (Engineering and Configurations Documentation). These DIDs involve specifications and the data generated by them may provide information relevant to the contractor's proposed protection of primary items being developed. If the DD Form 1423 is not annotated to require submission of such data to the packaging management function, positive action must be taken to ensure access.

3.6.4. DIDs for Provisioning. DI-PACK-80120A and DI-PACK-80121A are stipulated on the DD Form 1423 when items are being acquired through the provisioning process. However, their use is not limited to provisioning actions. During the data call, the initiator should include a requirement that packaging data be individually priced by type (special packaging instructions (SPI), and coded data) or that prices be negotiated for packaging data concurrent with negotiation of prices of the provisioned items. This will assist the packaging management function in determining the most economical means of data devel-opment (in-house or contractor).

3.6.5. SPI Requirements for Reparables. When DI-PACK-80121A is stipulated, a statement such as the following will be inserted in block 16 of the DD Form 1423 to maintain the integrity of the Air Force reusable container program: "SPIs, which include drawings or drawings and narratives, fast packs or standard packs (IAW TO 00-85B-3, *How to Package Air Force Spares*) shall be developed for all items that are subject to individual shipment between users and a repair facility (reparable items). This includes items coded as expendability, recoverability, reparability category (ERRC) C, S, or T." When DI-PACK-80121A is stipulated, the DD Form 1423 is annotated to require contractors to furnish the original and one copy of the DD Form 2169, **Special Packaging Instruction**, to the managing ALCs packaging management function.

3.6.6. DIDs for Anticipated Long-Life Container Requirements. When development or use of long-life containers is anticipated, DI-PACK-80683 and DI-PACK-80684 must be stipulated on the DD Form 1423. DI-PACK-80683 is used to avoid costly design of long-life containers if an existing design can be used or modified for use. DI-PACK-80684 serves as a means to enter new container designs into the CDRS for future use. The DD Form 1423 will be annotated to require requests for design retrieval be submitted to the CDRS Office (ASC/VXTC, Eglin AFB FL 32542). The packaging management function should annotate the DD Form 1423 so that they obtain an information copy of all design requests. Packaging management function personnel may exempt contractors from submitting approved new designs to ASC/VXTC. However, if the packaging management function personnel exempt the contractor from submitting new designs to the CDRS, the packaging management function will be responsible for submitting the designs to CDRS. The AFMC-LSO/LOP AFPTEF or ASC/VXTC will be contacted if a new long-life container must be developed (see Chapter 7).

3.7. AFMC Form 158, **Packaging Requirements.** Packaging and handling requirements for inclusion in AFMC contractual documents are accomplished on AFMC Form 158. The following applies to data incorporated on the AFMC Form 158:

3.7.1. Current Data and Specifications. Approved and current specifications, MIL-STD-2073-1/-2 coded/supplemental data, or SPIs will be cited. When specification requirements or SPIs are outdated or otherwise inadequate, they will not be stipulated in the contract. In such instances, the method of

preservation and any other pertinent details required for the contractor to construct and adequately package the items/systems, will be entered in the appropriate columns of the AFMC Form 158.

3.7.2. Commodity Specifications. Before citing a specification or SPI on the AFMC Form 158 (or computer generated equivalent), review the applicable process specification, Preparation for Delivery Section (5) of the commodity specification, to ensure that requirements are current, adequate, accurate and compatible with current Air Force and AFMC policies. Action will be initiated to replace detailed Section 5's with coded packaging requirements or SPIs. The packaging management function will notify the Air Force preparing activity or custodian for the commodity specification that data has been developed for the item. The preparing activity or custodian will then initiate action to replace the detailed Section 5 with the following "boiler plate":

"For acquisition purposes, the packaging requirements shall be as specified in the contract or order. If packaging is done by DoD personnel, these personnel need to contact their responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity."

3.7.3. Commercial Item Description (CID). Each CID should have a "Packaging, Packing, Marking and Palletization" paragraph(s). The following paragraph should be a part of all CIDs:

"Packaging, Packing, Marking and Palletization: Unless otherwise specified in the contract, packaging, packing, marking and palletization shall be in accordance with ASTM 3951, *Standard Practice for Commercial Packaging,* as specified for shipments to the Department of Defense."

3.7.4. QUP. Only QUPs that have been approved or furnished by the IM will be stipulated on the AFMC Form 158. The packaging management function personnel cannot change IM established QUPs unless approved by the IM. Current packaging data records will be reviewed to ensure that the data reflects approved unit package quantities. On PRs/MIPRs, unit package quantities for all items being acquired are annotated by the PR/MIPR initiator immediately following the item nomenclature. When the unit pack quantity seems incompatible with packaging requirements, packaging management function personnel will submit written recommended changes, with rationale, to the appropriate IM, with the understanding that the IM has final control over the establishment of QUP. When an SPI is cited, a hard copy of the SPI must accompany the AFMC Form 158. (Additional copies will be furnished when requested for acquisition purposes.)

3.7.5. Completing the AFMC Form 158. Complete the AFMC Form 158 as follows:

3.7.5.1. Block 1. Complete block 1 when approved preservation data is available in MIL-STD-2073-1/-2 format. This block may also be used when only partial data such as QUP and level of protection are available. However, every effort should be made to provide contractors with the most complete data possible. Therefore, a concerted effort should be made to fully develop data before submitting the AFMC Form 158.

3.7.5.1.1. Under "ITEM" enter the national stock number (NSN) or other item identification as shown on the contracting document.

3.7.5.1.2. Other column headings and numbers correspond to those on the DD Form 2326 and are completed using the instructions in MIL-STD-2073-1. Supplemental data may also be

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shown under these columns. To avoid confusion, skip a line between entries when supplemental data is shown.

3.7.5.2. Block 2. Complete block 2 when an SPI or federal/military specification is used to describe packaging requirements.

3.7.5.2.1. Under "ITEM," enter the NSN or other item identification as shown on the contracting document.

3.7.5.2.2. Under "QUP," enter the IMs QUP in terms of unit of issue.

3.7.5.2.3. Under "LVL," enter the required level of protection.

3.7.5.2.4. Under "SPI/SPECIFICATION" enter the number of the SPI or specification that applies.

3.7.5.3. Block 3. Complete block 3 when packaging data is not available and it is desirable to purchase the data from the contractor. This block will always be used when items are being procured through a provisioning action. The appropriate DID must be included in the CDRL when block 3 is completed.

3.7.5.3.1. Under "ITEM," enter the NSN or other item identification as shown on the contracting document.

3.7.5.3.2. Under "QUP," enter the QUP in terms of the unit of issue. This data should be compatible with IM established data.

3.7.5.3.3. Under "LVL," enter the required level of protection.

3.7.5.4. Block 4. Complete block 4 to specify packing requirements.

3.7.5.4.1. Under "ITEM," enter the NSN or other item identification as shown on the contracting document.

3.7.5.4.2. Under "LVL," enter the required level of packing.

3.7.5.4.3. Under "SPI/SPECIFICATION," enter the SPI number or specification that applies to item packing, if any.

3.8. AFMC Form 158A (Continuation Sheet). Used to specify packaging requirements when there is not enough space on the AFMC Form 158.

3.9. Contractual Exhibits. Contractual packaging exhibit agreements (for example, the exhibits found in Defense Maintenance Information Support Agreements (DMISA)) are intended to supplement, modify, or interpret basic packaging requirements authorized by Air Force and AFMC.

3.9.1. These exhibits should not be used simply to duplicate the requirements of MIL-STD-2073-1/ -2. They are used when the documents authorized by AFMC for contractual stipulation do not provide for peculiarities in the packaging requirements for specific system or material, or when clarification of existing contractual documents is required. Such agreements are invoked when they result in savings or other benefits to the Air Force, at no detriment to the protection of the items involved. When it is apparent that provisions of the agreement may have recurring AFMC-wide application, contact AFMC-LSO/LOPP so consideration can be given to adopting the terms of the agreement as a standard AFMC packaging requirement.

3.9.2. When agreements involve items for which an AFMC activity other than the one initiating the agreement has management responsibility, the proposed packaging agreement will be coordinated in writing with the managing activity before incorporating it into a contract. This should be accomplished as soon as possible after initiation of the requirement.

3.9.3. Caution will be exercised to make sure packaging agreements do not infringe on areas of responsibility assigned to other DoD agencies. When terms of the agreement affect other AFMC activities or another Air Force or DoD activity, the agreement will be coordinated with them.

3.10. Contractual Requirements for Hazardous Materials. The provisions of DoD Federal Acquisition Regulation (FAR) Supplement 52.228-7007 are cited when specifying packaging requirements for ammunition and explosives. DoD FAR Supplement 52.223-7000 is specified for radioactive materials. FAR 52.223-3 is specified for hazardous material other than ammunition, explosives, and radioactive materials. The package and container markings for hazardous articles are included in central and local contracting documents through use of AFMC Form 90, **Item Identification Marking and Shelf-Life Item Provisions.**

3.11. Obtaining Material Safety Data Sheets (MSDS). MSDSs are required for all known hazardous items and for all items shown in FED-STD-313, *Material Safety Data, Transportation Data, and Disposal Data for Hazardous Materials Furnished to Government Activities*, Tables I and II. Contract information is identified in the FAR in subpart 23.3 and paragraph 52.223-3. This requirement includes centrally and locally purchased items. (Note that MSDSs are not used in developing transportation data for ammunition and explosive items. Instead, data from DI-L-3311 is sent to OO-ALC/LIW for determination of hazard classification.) Anytime an MSDS is used, the face of the AFMC Form 158 must be stamped "MATERIAL SAFETY DATA SHEET REQUIRED" wherever adequate space is available. The AFMC Form 158 can also be used to highlight the need for POP testing, packaging, and marking requirements in accordance with applicable model requirements.

3.12. Transfer of Packaging Data for Logistics Support. Packaging data obtained from the contractor during acquisition must be provided to the managing ALC to ensure adequate spares support. Packaging management function personnel identify and incorporate into Section 6 of the transition agreement requirements to transfer the information to the supporting ALC.

3.12.1. Packaging data to be transferred may include drawings furnished by the contractor as part of Section 5, Part II; pertinent CI specifications; and drawings developed for special design protection equipment in support of other CIs.

3.12.2. The transition agreement should be written to ensure the transfer of required packaging and handling information from the program office and any other AFMC acquisition office that may have data.

Chapter 4

HAZARDOUS MATERIALS

4.1. Hazardous Materials . For the purposes of this instruction, the term "hazardous materials" means explosives (class 1), compressed gases (class 2), flammable liquids (class 3), flammable solids (class 4), oxidizers and organic peroxides (class 5), poisons and infectious substances (class 6), radioactive materials (class 7), corrosive materials (class 8), and miscellaneous dangerous goods (class 9), or any substance or material which has been determined to be capable of posing an unreasonable risk to health, safety, or property. The term includes hazardous substances, hazardous wastes, marine pollutants, and elevated temperature materials. This definition is also contained in 49 CFR 100-199 and joint service publication AFJMAN 24-204. Definitions for worker safety and health purposes are contained in 29 CFR 1910.1200.

4.2. Hazardous Materials Regulatory Guidance. The following documents govern packaging requirements for various modes:

4.2.1. Water Shipments (International). International Maritime Organization (IMO), International Maritime Dangerous Goods (IMDG) Code.

4.2.2. Airlift. International Civil Aviation Organization (ICAO), Technical Instructions for the Safe Transport of Dangerous Goods by Air, International Air Transport Association (IATA), Dangerous Goods Regulations, or AFJMAN 24-204.

4.2.3. Mail and Parcel Post Shipments. AFI 24-201, *Cargo Movement* (formerly AFR 75-1, *Performance Oriented Packaging (POP)), Transportation of Material, and Postal Regulations,* parts 124-125.

4.2.4. All Modes (Domestic). 49 CFR 100-199 for packaging and transportation requirements and 29 CFR 1910.1200 for hazard communication requirements. The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard ensures that all chemicals produced or imported by chemical manufacturers or importers are evaluated to ensure that workers who come into contact with them are apprised of the hazards. Personnel who deal with hazardous materials require training in accordance with the hazardous communication standard. Information regarding hazardous materials is transmitted by container labeling and other forms of warning, MSDS, and employee training.

4.2.5. Department of Transportation Training. 49 CFR 172.702 and 704. The Department of Transportation (DoT) requires a hazardous material employer, whose employees are exposed to hazardous materials during their routine duties, to provide training and test employees on the chemicals routinely encountered. The training must cover general awareness/familiarization, safety (can compliment or replace training required in paragraph 4.2.4 or EPA training) and specific functional training. Training is required on or before 1 October 1993 and must be performed at least every second year. New employees must be tested within 90 days of starting the job. The manager must maintain documentation of compliance on all employees that fall under this requirement a minimum 90 days following employment termination.

4.3. Hazardous Materials Certification. The depot packaging activity provides necessary guidance to the transportation officer or authorized agent to ensure certification is completed by qualified personnel as

required by AFJMAN 24-204 and other governing regulations. Packaging management functions of the acquisition support flights provide guidance as needed for the items they manage.

4.4. Special Responsibilities.

4.4.1. Hazardous Materials Packaging Requirements for Prime Items. Each packaging management function establishes packaging and handling requirements for its assigned prime items.

4.4.2. MSDS. The requirement to provide an MSDS for hazardous materials must be stipulated contractually (see Chapter 3).

4.4.2.1. FED-STD-313 contains criteria for receiving MSDSs from the contractor.

4.4.2.2. Safety and health information based on the MSDS will be submitted to the Hazardous Material Information System (HMIS) data base by the Occupational and Environmental Health Laboratory (USAF OEMB), 2403 E Dr, Brooks AFB TX 78235-5114.

4.4.2.3. MSDS prepared for chemicals covered by the OSHA Hazard Communication Standard must be routed through the base bioenvironmental engineer to USAF OEMB at Brooks AFB.

4.4.2.4. PHS&T information must be submitted to the HMIS data system (or reviewed to ensure data is already present) for all MSDSs that contain a valid NSN. This information will be provided as required by Chapter 6. Each packaging management function is responsible for providing the HMIS with MSDS data for the items they manage. Local procedures will be initiated to establish a suspense file to ensure MSDS information is provided for applicable items.

4.4.2.5. Explosive items (class 1) are not required to have an MSDS, but must be hazard classed in accordance with 49 CFR 173.56.

4.4.3. Reviewing AFJMAN 24-204. The packaging management function will periodically review AFJMAN 24-204 to ensure uniformity of packaging with SPI, specifications, and standards. Where inconsistencies exist that require a change to AFJMAN 24-204, AFMC-LSO/LOPP, Packaging Policy, must be advised. If changes are required to specifications and standards due to AFJMAN 24-204 requirements, they will be addressed to the preparing activity for the document.

4.4.4. Using Non-DoT Specified Packaging. When packaging other than that specified by the DoT is used for hazardous materials, the packaging must be of equal or greater strength and efficiency as the packaging prescribed by the DoT as authorized by 49 CFR 173.7. The use of non-DoT packaging must be substantiated and documented as being equal to or greater than DoT requirements according to joint service document AFR 71-5/DLAR 4145.41 (AFI 24-210, *Performance Oriented Packaging (POP) of Hazardous Materials)*. The packaging management functions of the acquisition support flights must coordinate with medical, safety, and item management personnel, as appropriate. All documentation supporting the alternate packaging must be kept in file until the item is removed from the DoD inventory.

4.4.5. Packaging Management Functions' Responsibilities Toward Preparing Hazardous Materials for Shipment. Hazardous materials when offered for shipment must be preserved, packed, and marked properly according to applicable directives governing the mode of transportation used and the hazard potential of the item.

4.4.5.1. The packaging management function must ensure that hazardous materials regulatory requirements and cautionary markings are specified in procurement documents. POP require-

ments must be specified in contracts for all hazardous materials that have been identified as POP, regardless of destination.

4.4.5.2. The packaging management function will assist depot packaging operations, off-base personnel shipping Air Force-managed NSNs, and contractors by providing hazardous materials guidance.

4.4.5.3. The packaging management function will provide guidance on packaging, marking, labeling, and manifest preparation for hazardous wastes. Hazardous wastes include any solid waste defined as a hazardous waste by 40 CFR 261.3. Bioenvironmental engineers (SG) can provide guidance on identifying and handling hazardous wastes.

4.4.5.3.1. Hazardous Waste Packaging. Hazardous waste must be packaged in containers required by 49 CFR or in container of equal or greater strength and efficiency as required by DoD regulations. When containers required by 49 CFR are not used, the provisions of DoDM 4160.21, Chapter VI, must be followed.

4.4.5.3.2. Hazardous Waste Labeling and Marking. Hazardous waste shipments must be labeled with appropriate DoT hazard class labels and properly completed hazardous waste label. Shipments must be marked according to 40 CFR 262.32, 49 CFR 172, and MIL-STD-129, *Marking for Shipment and Storage.*

4.5. Hazardous Materials Training. Training for military airlift will be conducted as required by AFJMAN 24-204, paragraph 1-19, and service policy directives. Training for all other modes will be conducted as required by the Defense Traffic Management Regulation (DTMR) and 49 CFR, paragraphs 172.702 and 704.

Chapter 5

PACKAGING DATA AND SPI DEVELOPMENT

5.1. Packaging Data Development. Packaging data developed in-house will be prepared in accordance with MIL-STD-2073-1/-2. The format is specified by DD Form 2326. It is not necessary to complete or maintain a hard copy of the DD Form 2326 if data is electronically prepared and entered into an AFMC packaging data system, such as SC&D.

5.2. Packaging Data Approval. Packaging data procured from contractors must be approved prior to use or entry into AFMC data systems. This applies to coded and SPI data.

5.2.1. Stamps are used by the ALCs packaging management function personnel to indicate approval of packaging data. They are made locally or acquired according to the format shown in figure 5.1. A stamp is issued to each packaging specialist authorized to approve packaging data.

Figure 5.1. Stamp Format.
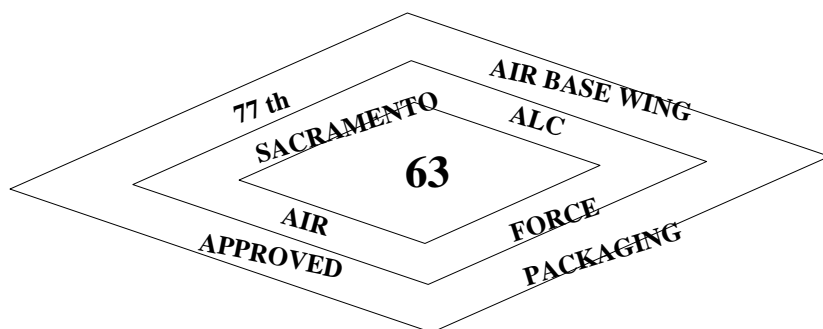
5.2.2. Each stamp includes a number within the inner diamond to identify the individual packaging specialist given this approval authority. These numbers are restricted to the blocks of numbers assigned below:

ALC	Stamp Numbers
OC-ALC	1 - 20
OO-ALC	21 - 40
SA-ALC	41 - 60
SM-ALC	61 - 80
WR-ALC	81 - 100

5.3. Preparing SPIs. Each ALC maintains SPIs for items requiring special packaging techniques, materials, or containers. The detail must be sufficient for reproduction by base packaging personnel for return to a technology repair center (TRC), or prepare them for redistribution. Whenever possible, SPIs should be designed so that they can be applied to groups of similar items. If feasible, a short-life container will be designed as an alternate pack to long-life containers. SPIs are maintained for all items with ERRC codes

C, S or T that are subject to shipment as a single item between field activities and repair facilities (see AFM 67-1, Volume I, Part 4, attachment 27). These might not always be "true" SPIs, in the sense that discrete SPIs are not required for items suitable for fast packs or standard packs. However, correlating the reparable item's NSN with an SPI number of some type maintains the integrity of the Air Force reusable container program and conserves Air Force and DoD dollars. TO 00-85B-3 provides details on the coding system imbedded in the "pseudo" SPI number assigned to fast packs and standard packs. Use AFMC Form 157, **Special Packaging Instruction Worksheet** (formerly AFLC Form 828), when drafting SPIs. The purpose of the form is to standardize ALC inputs to CADS. The form will be reproduced locally at each ALC.

5.3.1. Format and Requirements. The order of preference for types of packaging techniques to be used, subject to cost effectiveness, is as follows:

5.3.1.1. Fast pack.

5.3.1.2. Standard pack.

5.3.1.3. Discrete SPI drawing.

The order of preference should not be the sole determining factor in the type of technique above. Before selection, each type should be evaluated for practicality and cost-effectiveness (labor, materials, weight, cube, etc.) as well as fit and protection provided for the item in question. If an item can be adequately protected by use of a fast pack, then one should be specified. If not, evaluate a standard pack for use, etc. A computer-generated form may be used for SPIs developed using the CADS. The general format and requirements for SPIs can be found in MIL-STD-2073-1.

5.3.2. SPI Development on the CADS. The CADS is to be used to produce SPI and technical illustrations for assigned items and to change those SPIs which require revision. Any other uses require approval from AFMC-LSO/LOP AFPTEF. Chapter 6 contains additional information about CADS. General criteria for priority of SPI development are:

5.3.2.1. Packaging designs requiring revision due to known problems.

5.3.2.2. Active depot reparable without an SPI.

5.3.2.3. New SPIs received from contractors.

5.3.2.4. Revisions to SPIs for administrative changes.

5.3.2.5. Conversion of existing transportation packing orders (TPO) to SPI format.

5.4. SPI Numbering. The SPI numbering system provides for three categories of SPIs. Each is limited to ten character positions. Each category will be identifiable through use of distinctly different alphanumeric arrangements within the ten positions. The first character position for each of the three categories will always be the alpha service designator (A = Army, D = DLA, F = Air Force, M = Marine Corps, N = Navy). SPI numbers will not be changed due to national item identification number (NIIN) changes (see TO 00-85B-3).

5.4.1. Discrete SPI Numbers. These SPIs are numbered using the NIIN of the original item for which it was developed. It consists of ten characters (example: A001234567).

5.4.2. Fast Pack Numbers. Fast packs (and standard packs, below) are given "pseudo" SPI numbers to facilitate effectiveness of the Air Force reusable container program. There are no drawings required to

pack a fast pack (see TO 00-85B-3). The fast pack ten-character number consists of the military service/ agency designator alpha and five zeros followed by one numeric character representing method of preservation, an "X" identifying it as a type of fast pack, and a two position alphanumeric code for container size (example: A000004XA5). The last three characters are the fast pack code that is printed on each pack. To assist depot packing and crating personnel, the fast pack NSN should be annotated in the D Record of the DD Form 2326 when developing and entering packaging data to AFMC data systems (see TO 00-85B-3).

5.4.3. Standard Pack Numbers. Standard pack numbers consist of the military service/agency designator alpha, five zeros followed by a numeric code for method of preservation, an alphabetic code for package options and two numeric characters representing container size (example: A000004F01) (see TO 00-85B-3).

5.5. SPI Dates. Only current "ordinal" dates are used. The ordinal date consists of two characters for the year followed by three characters for calendar day of the year (94120). To date the fast pack and standard pack SPI number, use the ordinal date on which the item was assigned to the fast pack or standard pack. The addition or deletion of an item to an existing SPI does not constitute a change in the SPI ordinal date.

5.6. Distributing Copies of SPIs . Each new or revised SPI is distributed as follows within 5 workdays of file maintenance action:

5.6.1. The original is maintained in the packaging management function. One copy is sent to the TRCs packaging management function, and one copy each is sent to DLA preservation and packing, container fabrication, and shipment planning functions.

5.6.2. One copy of each SPI showing a long-life container is sent to ASC/YHC, Eglin AFB FL 32542, for inclusion in the CDRS.

5.6.3. One copy of each SPI not maintained in the CADS is sent to the AFPTEF at AFMC-LSO/LOP, 5215 Thurlow Street, Wright-Patterson AFB OH 45433-5540.

5.7. Requests for Copies of SPIs. The AFMC packaging data system (SC&D) generates a cross reference list of SPIs and their associated NSNs quarterly for publication and distribution as a microfiche product. A list of users is maintained and updated by OO-ALC/LGTP (DSN 458-4515), Hill AFB UT 84056-5707, and distributed to a large number of users. The list is published by Defense Information Systems Agency (DISA) and used by Air Force bases and packing activities to determine which SPIs are required to package reparables for return shipment (see paragraph 6.3.5.2).

5.7.1. The ALCs packaging management functions provide Air Force bases copies of SPIs upon request. Requests for SPIs will be submitted by letter or message. The ALC packaging management function forwards copies to the requester within 30 days of request. Bases will send follow-up requests after the 30 days have passed.

5.7.2. To minimize the potential for unnecessary SPI requests, ALCs should conduct an annual SPI audit review. The purpose of this review is to correct inconsistencies between the packaging data system and active SPI files. One method of accomplishing this audit is to generate a list of SPIs from the packaging data system and match it against the ALC active SPI files. Discrepant data in the packaging data field will be corrected as soon as possible to prevent erroneous SPI update requests from the field.

5.8. Marking SPI Containers. The applicable SPI number is marked on the exterior container. Fast packs are excluded. Additional marking requirements are determined by ALC packaging management functions. Component parts of SPI containers which may be separated from the pack are identified with the SPI number.

5.9. Aerospace Maintenance and Regeneration Center (AMARC) Deviation from AFMC Packaging Data. AMARC may, with permission of the managing ALC or service, modify SPI or packaging data to be compatible with materials available and to satisfy unique logistics requirements when deviation results in better customer support at reduced cost. AMARC is authorized to ship an item in a pack other than the SPI pack without prior approval from the managing ALC or service in an emergency situation, as long as equal or better protection is provided. An emergency situation is a requirement in direct support of a system when a work stoppage or condition status of a system might otherwise prevent it from performing its mission.

5.10. Internal Industrial Operations Materials Handling. The packaging management function of the acquisition support flight will be responsible to provide materials handling support to include design and development of material handling devices and/or containers used within industrial operations. Packaging management function personnel will work in cooperation with equipment specialists, engineers, and technicians to determine special item characteristics of prime items as early as practical in the life cycle of items.

5.10.1. Material Handling and Technical Assistance Requirements of Prime Items. The packaging management function provides technical assistance and support to the responsible industrial engineering staff to ensure availability of adequate handling devices and/or containers. This is accomplished by assigning a packaging specialist to work with the product directorates' engineering functions on actions related to improving handling methods and devices. Packaging specialists will provide the following assistance to the product directorates' engineering functions:

5.10.1.1. Information regarding special handling instructions for hazardous materials, electrostatic sensitive devices, blocking and bracing and other packaging features in accordance with regulations and limitations of the user.

5.10.1.2. The development of SPIs to facilitate materials handling within an industrial operations environment and as a final pack in the transportation environment.

5.10.1.3. Guidance pertaining to future transportation, packaging and handling plans to ensure the compatibility of each directorate's handling methods and systems with each other and with the Air Force transportation, packaging and handling program.

5.10.1.4. Information relative to limitations of the existing industrial operations resulting in damage to assigned prime items.

5.10.1.5. Surveillance of the industrial operations handling practices and equipment, conducted in conjunction with each directorate's engineering function or their material systems quality control program.

Chapter 6

PACKAGING DATA SYSTEMS

6.1. General. The ALCs and other AFMC activities as applicable, will use and support approved packaging data systems. Contact the packaging specialist at HQ AFMC/LGTT, Transportation Logistics, 4375 Chidlaw Road, Suite 6, Wright-Patterson AFB OH 45433-5006, prior to upgrading or developing packaging data systems, or prior to developing system applications that impact or interface with existing packaging data systems.

6.2. CADS. The ALCs packaging management functions and other AFMC activities as appropriate, will maintain graphics support capability, including drafting, technical illustration, and CADS. The packaging management functions maintain responsibility for the local operation of the CADS.

6.2.1. The CADS is to be used to produce SPIs and technical illustrations for assigned items, and to change SPIs which require revision. Any other uses require coordination with AFMC-LSO/LOP AFPTEF.

6.2.2. AFMC-LSO/LOP AFPTEF is responsible for the system management of the CADS. The equipment will be kept operational and upgraded as necessary to ensure acceptable working conditions for the ALCs packaging management functions. The AFMC-LSO/LOP AFPTEF is responsible for the day-to-day operations of the mainframe CADS, system upgrade, periodic working group meetings, and development of system requirements for new equipment, and assists the ALCs packaging management functions to ensure efficient operations.

6.3. SC&D D035T Packaging, Transportation, and Regulated Material (PT&RM) Data System. The packaging management functions' personnel prepare packaging data (in accordance with MIL-STD-2073-1/-2) and regulated materials data and enter it into the PT&RM (D035T) data base of SC&D. The packaging management functions' personnel are also responsible for ensuring the accuracy of contractor-prepared packaging and hazardous materials data, and entering it into the PT&RM. The SC&D PT&RM is primarily available at the ALCs. It provides on-line capability for interrogations, mass interrogations, data entry, and clear text interpretations of packaging, transportation, and hazardous materials data. It also produces a number of reports and other data products.

6.3.1. User Identifications/Passwords for PT&RM Data Entry. The ALCs packaging management function personnel and HQ AFMC/LGTT, Traffic Management, are the only organizations authorized packaging access for data entry purposes. HQ AFMC/LGTT, Traffic Management, will enter clear text and common item table updates as revisions to MIL-STD-2073-1/-2 occur. The packaging management function personnel will enter packaging data. All other users have "read-only" access. Therefore, it is important that the ALCs packaging management functions and HQ AFMC/LGTT, Traffic Management personnel keep the packaging information current, as indicated above.

6.3.2. Entry of Nonprime Air Force Packaging Data. Nonprime assets may be stored or repaired at another ALC. The nonmanaging ALCs may enter data into blank PT&RM fields in order to package items for shipment or storage. They may not change existing data for nonprime items. Contact the managing ALC if data changes are needed. The prime ALC will be notified by a nonprime PT&RM change notice that a nonprime ALC has entered data. The prime ALC may either accept the data or overlay it with their own.

6.3.3. Entry of Non-Air Force Packaging Data in PT&RM. Non-Air Force assets may be stored at an ALC. Depot packaging activities require access to the packaging data for those items. This packaging data is developed by packaging personnel at the managing military service/agency, not by AFMC personnel. In order for depot personnel to access the data, it must be resident in SC&D or another central system, such as the Federal Logistics Information System (FLIS), Battle Creek MI. If the non-Air Force data is not resident in the FLIS, packaging management function personnel cannot establish the item in SC&D until a cataloging action is accomplished in the FLIS. The packaging management function personnel will enter this data, exercising care to enter it exactly as the managing military service/agency has prepared it. To minimize pipeline times, the packaging management function personnel must provide this data entry support expeditiously, usually within 24 hours from the time the depot requests it.

6.3.4. PT&RM Packaging Data Products. SC&D produces the following data products:

6.3.4.1. *Unmatched Clear Text Summary Report,* PCN A-D035T-601-QT-L59, indicates that a data code from MIL-STD-2073-2 was interrogated for a clear-text interpretation, but D035T was unable to locate clear text for the code. OO-ALC forwards this product to HQ AFMC/LGTT, Traffic Management, for review to determine if clear-text codes should be added to SC&D. HQ AFMC/LGTT, Traffic Management, determines causes for unmatched data (input error, invalid or old data code entered, clear-text data not available) and takes appropriate action based on the data analysis (add clear text, alert the ALC packaging management function of outdated data codes, or other appropriate action). This reporting requirement is exempt from licensing in accordance with AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections,* paragraph 2.11.3*s*.

6.3.4.2. *Quarterly SPI/Stock Number Cross Reference List,* A-D035T-801-QT-L09 and A-D035T-802-QT-L09 provide SPI to stock number (801) and stock number to SPI (802) cross references on microfiche. These products are distributed Air Force-wide to users through DISA, located at Hill AFB UT (see Chapter 5, paragraph 5.7). The requirements in this paragraph are exempt from licensing in accordance with AFI 37-124, paragraph 2.11.3.

6.3.4.3. *PT&RM Record Summary*, A-D035T-801-QT-L05, is produced for each ALC. The product shows the status of data coverage and is used to establish workloads and data development goals. The product is distributed to each ALC packaging management function.

6.3.4.4. *Packaging Record Analysis*, A-D035T-805-QT-L05, is provided to each ALC packaging management function. It shows the current status of each federal supply class (FSC) or material management aggregation code (MMAC) and changes from the last quarter.

6.3.4.5. *PT&RM Nonprime Packaging Change Notice*, A-D035T-609-DA-L51, is provided to the prime ALC to alert them that a nonmanaging ALC has developed data for their item in order to package it. The managing ALC has the option to overlay the data with their own data, or to accept it without change.

6.3.4.6. *Stock-List Change Notice*, A-D035T-801-DA-L11, notifies the affected ALC of stock-list change actions that impact their prime items.

6.3.4.7. *Packaging Block Maintenance Exception List*, A-D035T-601-DA-L10, identifies invalid data code entries.

6.3.4.8. *PT&RM Deletion Notice*, A-D035T-601-WK-L50, notifies the prime ALC that the D043A system has deleted an NSN. Upon notification, the packaging management function should remove any associated SPIs from their files and notify DLA packaging specialists for updating their prime SPI file which supports DLA packaging operations.

6.3.4.9. The following products result from interface with the G019 Maintenance Items Scheduled to Repair System:

6.3.4.9.1. The *Quarterly Packaging Container Requirements "SPI,"* A-D035T-801-QT-L04, is provided to each prime and TRC ALC packaging management function and depot packaging function. The product lists, in SPI number sequence, the quantity of each SPI container required for the fiscal year.

6.3.4.9.2. The *Quarterly Packaging Container Requirements "NON-"SPI,"* A-D035T-802-QT-L04, is provided to each prime and TRC ALC packaging management function and depot packaging function. The product lists, in container dimension sequence and type of container, the quantity of each type and size of container required for the fiscal year.

6.3.4.9.3. The *Quarterly Packaging Container Requirements "Unmatched,"* A-D035T-803-QT-L04, is provided to each prime and TRC ALC packaging management function and depot packaging function. The product lists, in NSN sequence, the quantity of each NSN scheduled to repair for which there is no packaging data.

6.3.5. Hazardous Materials Data Products. Data products include:

6.3.5.1. *Regulated Material Data Review Notice,* A-D035T-601-DA-L01, is used by transportation personnel to identify hazardous materials for type cargo code purposes.

6.3.5.2. *PT&RM Regulated Material Block Maintenance Exception List*, A-D035T-601-DA-L12, notifies user that codes entered in Regulated Block Maintenance are incorrect.

6.3.5.3. *Nonprime PT&RM Change Notice (Regulated),* A-D035T-603-DA-L51, are notices produced to the managing ALC packaging management function identifying data changes that have been made by a nonprime ALC packaging management function user. The prime ALC packaging management function has the option of overlaying the data with their own data, or accepting the nonprime input.

6.3.5.4. *Nonprime Change Notice (Regulated Supplemental Data),* A-D035T-604-DA-L51, are notices produced to the managing ALC packaging management function identifying supplemental data changes that have been made by a nonprime ALC packaging management function user. The prime ALC packaging management function has the option of overlaying the data with their own data, or accepting the nonprime input.

6.3.5.5. *Regulated Material Block Interrogation Report,* AFJMAN 24-204 Data, A-D035T-601-DA-L28, reports are produced in response to a request for a mass interrogation for hazardous materials data.

6.3.5.6. *Regulated Material Block Interrogation Report*, IATA Data, A-D035T-602-DA-L28, is produced in response to multiple field block interrogation requests of IATA data.

6.3.5.7. *Regulated Material Block Interrogation Report*, IMO Data, A-D035T-603-DA-L28, is produced in response to multiple field block interrogation requests of IMO data.

6.3.5.8. *Regulated Material Block Interrogation Report,* DOT Data, A-D035T-604-DA-L28, is produced in response to multiple field block interrogation requests of DOT data.

6.3.6. Reporting SC&D PT&RM System Deficiencies/ Suggesting System Enhancements. AFMC personnel will follow the procedures below when recommending changes to the PT&RM:

6.3.6.1. ALC Users. Document system deficiencies or enhancements through the FOPR. The user will provide the FOPR with a "screen dump print-out" of all suspected system deficiencies and provide them to the FOPR for resolution. The FOPR will attempt to resolve the deficiency or will prepare AFMC Form 831, **Discrepancy Report (DR),** for submission to the D035T system OPR at HQ AFMC/LGTT, Traffic Management. Submit suggestions for system enhancements to the D035T system OPR, documenting savings, benefits, costs, and any other pertinent information that will assist the evaluator in determining feasibility for implementation. Submissions may be made through the normal correspondence process or using AF Form 3215.

6.3.6.2. HQ AFMC Users. The D035T system OPR will document/handle system deficiencies in a similar manner as described above. AFMC Form 831 and AF Form 3215 will be prepared by the system OPR and submitted to the D035T SPO for resolution. System enhancements received from other activities will be evaluated to determine applicability, cost effectiveness, AFMC-wide application. The D035T system OPR will also ensure that enhancements are:

- Not duplicative of other PT&RM change requests.
- Not duplicative of ongoing system efforts occurring at higher levels (Air Force/DoD).
- Are appropriately coordinated if impacting other activities such as DLA or FLIS.

6.3.6.3. **Data Products Changes.** ALCs should notify the D035T system OPR (and FOPR) regarding PT&RM data products that are no longer required. The D035T system OPR will analyze this data, coordinate it with the other users, and contact the D035T SPO if it is appropriate to delete the products. Any new product requirements should be handled in a similar manner.

6.4. Other Hazardous Materials Data System Responsibilities. The managing packaging man-age-ment function has responsibility for entering hazardous materials data into the HMIS and the DoD personal computer-performance oriented packaging (PC-POP) system. The managing ALC packaging management function must provide all additions, changes, and deletions to the packaging, transportation, and handling requirements for their prime items.

6.4.1. HMIS. The HMIS provides technical information about the hazardous properties of items managed and used by DoD. It is used as a reference in conjunction with (not as a replacement for) existing regulations governing transportation, storage, handling, disposal, etc. Additions, changes, or deletions to HMIS will be submitted by floppy disk. The Defense General Supply Center (DGSC/ SHH), 8000 Jefferson Davis Highway, Richmond VA 23297-5680 will provide a floppy disk with the required format upon request. If changes must be made to the record identity (i.e., NSN, commercial and government entity (CAGE) code, part number indicator, focal point indicator), contact DGSC for instructions.

DoD PC-POP Data Base. The PC-POP data base provides a DoD listing of packaging config-urations meeting the United Nations (UN) performance standards. Additions, changes and deletions to the DoD PC-POP data base will be submitted to DGSC, DOSO-DOH, 8900 Petersburg Pike, Building 32F, Richmond VA 23297-5000. Contact them for input format requirements. To add a tested packaging configuration to the data base, a completed test report must be provided. To change data, submit

only the page that contains the changed data. Recertification test reports must be submitted prior to the expiration date of the test report currently loaded in the data base. For deletion of data, contact the above address for instructions.

Chapter 7

PACKAGING DESIGN AND TESTING

7.1. General. AFMC ALCs test activities are normally concerned with completed pack tests involving free-fall and rotational type drop tests, inclined impact tests, and repetitive shock tests. The purpose of these tests is to verify, by means of standard test procedures, new pack designs. The packaging management function test results are recorded on AFMC Form 156, **Rough Handling Performance Test Record** (formerly AFLC Form 436), in duplicate. One copy is sent to AFMC-LSO/LOP AFPTEF, and one copy is retained by the ALC packaging management function. Some packaging design and test applications are beyond the capabilities of the ALCs. AFMC-LSO/LOP AFPTEF provides in-house capability in these areas.

7.2. POP Tests. The ALC test activities perform in-house POP testing. Test results will be recorded on a test report of approved format. Copies of the test reports will be sent for inclusion in the DoD POP data bank in accordance with the instructions provided in Chapter 6. AFMC-LSO/LOP AFPTEF can also perform POP testing and will submit reports as stated in Chapter 6.

7.3. AFMC-LSO/LOP AFPTEF and ASC/VXTC Capabilities. AFMC-LSO/LOP AFPTEF and ASC/ VXTC provide in-house engineering capability for packaging design, prototype and testing, with ASC/VXTC specializing primarily in reusable shipping and storage containers for munitions. AFMC activities will consider the capabilities available within the Air Force at AFMC-LSO/LOP AFPTEF and ASC/VXTC CDRS/MO before contracting out for specialized containers or engineering evaluation. All activities engaged in development or procurement of specialized containers shall send a search request in accordance with DI-PACK-80683 and DI-PACK-80684 (MIL-STD-1510, *Procedures for Use of Container Design Retrieval System*), to ASC/VXTC CDRS/MO before initiating a new design or a production program. Use of these activities ensures standardization and promotes reusability.

   7.3.1. Contact AFPTEF at AFMC-LSO/LOP, 5215 Thurlow Street, Wright-Patterson AFB OH 45433-5540.

   7.3.2. Contact ASC/VXTC CDRS/MO at ASC/VXTC, Attn: CDRS/MO (Building 11), Building 614, 102 West D Ave, Suite 168, Eglin AFB FL 32542-5313.

7.4. Using AFMC-LSO/LOP AFPTEF and ASC/ VXTC CDRS/MO, Eglin AFB Services.
AFMC-LSO/LOP AFPTEF and ASC/VXTC CDRS/MO work closely together to prevent duplication and to share technology and the use of either one will be considered in the following areas:

   7.4.1. Long-Life Container Support. AFMC-LSO/LOP AFPTEF or ASC/VXTC CDRS/MO, as appropriate, must be notified when long-life, complex, or highly engineered containers are required. Review by one of these activities is mandatory on specifications and SOW before procuring new design long-life containers. Projects involving long-life containers must be coordinated with the ALC item management organization responsible for item/system involved. AFMC-LSO/LOP AFPTEF or ASC/VXTC CDRS/MO will determine the extent of their participation in establishing the design criteria, writing specifications, preliminary and CDRs, writing of test plans, evaluation of design, first article acceptance testing, and physical configuration audits which require a major engineering effort.

7.4.2. CADS Engineering Solutions. AFMC-LSO/LOP AFPTEF is responsible for providing computer-aided engineering investigations and solutions on the CADS through finite element modeling and simulated testing programs.

7.4.3. Standardized Test Methods. AFMC-LSO/LOP AFPTEF develops and standardizes test methods and procedures to be used by the ALCs packaging management functions during evaluation of completed pack designs. Standardization is necessary from a single source to provide validity and comparability of test results between different AFMC organizations. To achieve standardization of test results, it is necessary for AFMC-LSO/LOP AFPTEF to approve equipment and instrumentation used by the ALCs packaging management functions for packaging tests. AFMC-LSO/LOP AFPTEF is responsible for coordinating all test equipment and instrumentation authorizations with the HQ AFMC Command Equipment Management Office.

7.4.4. Using AFMC-LSO/LOP AFPTEF Test Services. AFMC-LSO/LOP AFPTEF testing services will be considered when:

7.4.4.1. Testing requirements or problem areas include environmental testing over a long period or through use of environmental chambers.

7.4.4.2. Items require special environmental or transportation protection requirements above those normally encountered in a distribution cycle.

7.4.4.3. Technical or engineering differences exist between the ALC packaging management function and container designers for major systems or equipment.

7.4.4.4. In-house or field tests of completed packaging systems require instrumentation to monitor quantitatively the levels of shock and vibration developed on the packaged equipment/material.

7.4.4.5. Performance design curves are required on package cushioning materials.

7.4.4.6. Requirements exist to test materials for which AFMC-LSO/LOP AFPTEF is DoD lead service (AFR 71-6).

7.4.4.7. Testing required exceeds local capabilities.

7.5. Requests for Assistance. Requests for AFMC-LSO/LOP AFPTEF assistance will be submitted in attachment 3. Response to requests for assistance is dependent on manpower, equipment availability, and project priority. A determination of the action to be taken is provided to the requesting organization within 10 days after receipt of request.

Chapter 8

PACKAGING COST REDUCTION AND CONTROL

8.1. General. The packaging management function is responsible for activating, aggressively pursuing, and closely monitoring a continuous program to control and reduce AFMC, Air Force, and DoD packaging costs.

8.2. Packaging Cost Minimization Program. The successful implementation of a packaging cost minimization program requires AFMC participation and coordination with:

8.2.1. Components located on the base involved with packaging.

8.2.2. End users who are involved in physically packaging materiel.

8.2.3. Personnel involved in acquiring materiel which requires packaging. Efforts must be directed toward obtaining optimum packaging design, use of new and improved materials and methods, use of commercial packaging when it meets anticipated distribution conditions, specifying reusable containers and packaging materials whenever practical, and careful analysis of packaging costs. Actions that packaging management function personnel can take to achieve efficiencies include, but are not limited to:

8.2.3.1. Ensuring that effective and economical materials, processes, and procedures are developed for their materiel or systems and are used within contractor facilities. For example, emphasis should be placed on eliminating unnecessary use of heavy and costly containers.

8.2.3.2. Identifying and recommending potential new uses for surplus long-life reusable containers to the operating commands in accordance with AFM 67-1, Volume I, Part One, Chapter 10, Section W, *Container Management.* The CDRS will provide an in-depth review of technical data on existing container designs and surplus assets to determine their reusability in new defense system acquisitions or existing programs. Cost savings achieved through the use of CDRS for the reuse of existing containers or container designs shall be documented by the development or procurement activity and a copy of the documentation sent to CDRS.

8.2.3.3. The packaging management function should inform contracting components that it can assist in packaging cost analyses. This expertise should be utilized in analyzing and evaluating contractor's proposed packaging charges.

8.3. Packaging Services Contracts (PSC). A packaging services contractor should be used when savings can be effected by removing the packaging requirements from the prime contractor and placing it with another contractor. When requested by ALC contracting personnel, other commands, services or agencies, the depot will provide estimated costs based on PDCs or obtain estimated costs from Defense Distribution Depot packaging operations.

Chapter 9

PREVENTION AND CONTROL OF PACKAGING DEFICIENCIES

9.1. General . Each acquisition support flight's packaging management function is responsible for establishing and maintaining a program to minimize deficiencies resulting from improper packaging of items they manage.

9.2. Packaging Management Function Responsibilities. ALC packaging management function personnel accomplish the following to minimize packaging damage:

9.2.1. Review available SFs 364, information copies and available data system products to identify trends in packaging deficiencies. Develop, revise, or modify packaging requirements if an SF 364 indicates that packaging damage resulted despite compliance with applicable packaging directives.

9.2.1.1. Notify depot packaging organization of the changes to ensure that repackaging is accomplished to preclude further packaging damage.

9.2.1.2. Ensure necessary detailed packaging instruc-tions are provided to using activities when deficiencies result from improper packaging to prevent recurrence.

9.2.1.3. Assist the depot packaging organization in determining the cost of correcting discrepancies, as requested.

9.2.2. Take necessary action to correct deficiencies resulting from improper preservation and packing. Corrective action can be, but is not limited to:

9.2.2.1. Training on an individual basis or for packers/workers on protection of particular items. This type of training is informal in nature and does not require establishing a formal training program. Any such training or guidance should be accomplished only with the permission or participation of the supervisor of the individuals/organization concerned.

9.2.2.2. Compliance with applicable directives.

9.2.2.3. The depot packaging office should notify the ALC packaging management function of packaging damage to items despite compliance with applicable packaging directives.

9.2.2.4. When an SF 364 does not contain sufficient information to readily identify the shipment, discrepancy, mode of transportation, etc., request the necessary information by letter or message from the initiator of the report. Upon receipt of the corrected SF 364, take action as required.

9.3. Exceptions to Discrepancy Reporting Requirements. SFs 364 are prepared and acted upon according to AFR 400-54, *Reporting of Item and Packaging Discrepancies,* and AFM 67-1, Volume I, Part One, Chapter 5, *Basic Air Force Supply Procedures*. An SF 364 is prepared for an item not packaged according to applicable packaging instructions even when there is no item damage. Exceptions to the requirement for an SF 364 when there is no item damage are:

9.3.1. Packages dated before the current SPI date.

9.3.2. Contractor (with deviation number) or other service packages are acceptable for reuse given it is a reusable rather than a one-trip container.

9.3.3. The managing ALCs packaging management function must approve the use of a contractor pack by indicating the prime ALC and a deviation number in the lower right corner of the exterior container (for example, SM-001).

9.3.4. When using a contractor pack, annotate "Contractor Pack" on the DD Form 1348-1A, **Issue Release/Receipt Document**, or the condition tag. You can recognize contract packs by the contractor data markings required by MIL-STD-129, such as the purchase or delivery order number and the name and address of the contractor.

9.3.5. The next larger size type I or type II fast pack (PPP-B-1672, *Boxes, Shipping, Reusable with Cushioning*) is used for shipments with uniform materiel movement and issue priority system (UMMIPS) priority 01 - 08 because you don't have the required type I (vertical) or type II (slide) container. Issue an SF 364 if you use the next larger size fast pack for lower priority shipments.

9.3.6. The managing ALCs packaging management function has approved an alternate pack and provided a deviation number which is indicated in the lower right corner of the exterior container.

9.3.7. You are using larger standard pack containers for shipment of unserviceable items when you don't have the correct size.

Chapter 10

ASSISTANCE VISITS

10.1. General . Field assistance visits are customer service calls initiated to help packaging activities improve the quality of their operations. Assistance visits can provide a valuable means to reduce packaging deficiencies, reduce costs through increased utilization of reusable containers and reclaimed material, and reduce damage to Air Force materiel and containers. Packaging management functions, in accordance with local procedures, will establish a means to optimize visits to Air Force activities or contractors within their geographical area. Visits may be conducted in conjunction with center team visits, or may be conducted independently at the request of the field activity.

10.2. Types of Assistance Visits. There are four types of field assistance visits:

10.2.1. Normal Logistics Field Visits. Normal logistics field assistance visits to Air Force and ANG activities and Security Assistance Program recipient countries worldwide according to policies and procedures in AFM 67-1, Volume I, Part One, Chapter 1, Section D, *Field Visits*, and AFMCR 400-21, *Wholesale Inventory Management and Logistics Support of Multiservice Used Nonconsumable Items.*

10.2.2. Special Extended Assistance Visits. Special extended field assistance visits to Air Force and ANG activities worldwide according to policies and procedures in AFM 67-1, Volume I, Part One, Chapter 1, Section D, and AFMCR 400-21.

10.2.3. Assistance Visits to Contractor Facilities. Assistance visits to CONUS contractor facilities according to AFMCI 21-113, *Contract Maintenance Programs for Depot Maintenance Business Area (DMBA).*

10.2.4. Rapid Area Distribution Support (RADS) Assistance. RADS assistance visits to Air Force activities worldwide according to the polices and procedures in AFM 67-1, Volume I, Part One, Chapter 1, Section D.

10.3. Packaging Management Function Representation:

10.3.1. A representative of the packaging management function will participate in assistance visits to the extent their budgets will allow. Length of participation in the visit will vary, depending upon factors such as size of the packaging operation, known degree of packaging proficiency, and known problems of the activity being visited.

10.3.2. If it is not feasible for a packaging management function representative to participate in a center team visit, the packaging management function, upon notice of the planned visit, will furnish necessary information and guidance to enable other members of the team to assume responsibilities normally accomplished by the packaging management function representative.

10.4. Responsibilities of Packaging Management Function Representatives. The packaging management function representative will review packaging, handling, and storage of items according to guidance provided by the managing center. The primary concern is to reduce damage to serviceable items and the prevention of further damage to reparable items in their life cycle.

10.4.1. Prior to participating in an assistance visit, the packaging management function representative will review all available data pertinent to the packaging operation and handling methods at the activity to be visited. The packaging management function representative also collects and reviews all special packaging handling guidance, and plans pertaining to items and weapons deployed at the base.

10.4.2. The packaging management function representative provides guidance and assistance as necessary to improve the packaging of Air Force materiel, reduce damage resulting from improper handling, familiarize responsible personnel with latest technological improvements, and provide references where latest technical information can be obtained. Emphasis is placed on reusing specially-designed containers, cushioning, and on protecting unserviceable (reparable) items with necessary protection to prevent further deterioration or damage.

10.5. Checklists. The packaging management function representative uses the Packaging Checklist (attachment 4) as a guide for reviewing a base packaging operation, in addition to any special handling guidance pertaining to specific items. These lists are to be used as guidelines. They are not intended to be all inclusive.

10.6. Findings and Recommendations. Findings and recommendations for action should be documented in sufficient detail to ensure that the problem is clear and action is taken by the managing ALCs packaging management function. Packaging concerns that require HQ AFMC or higher headquarters' action should be formally documented in a letter to HQ AFMC/LGTT, Traffic Management. Information regarding the specific actions which have resulted in a high degree of effectiveness will be included in the report to HQ AFMC/LGTT, Traffic Management, for possible adoption by other Air Force or DoD activities. A letter of appreciation, or similar recognition, should be forwarded to these exceptional activities.

10.7. Follow-up . The packaging management function designated to take corrective action establishes a suspense and follow-up system to ensure the problem is resolved.

Chapter 11

INTERFACE WITH OTHER ACTIVITIES

11.1. General. This chapter outlines packaging interfaces between the AFMC ALCs packaging management functions and other Air Force bases and DoD agencies.

11.2. Base Requests for SPI Packs. When a container or pack prescribed by an SPI has been lost or damaged and a special packaging design creates an essential requirement that can't be fabricated by the base or obtained through local supply channels (GSA, local purchase), bases submit their requirements to the managing ALCs packaging management function.

11.2.1. All requests for containers must include an information copy to the major command of the requesting base and a fund cite to cover materials, labor, and transportation costs. AFI 24-202 contains specific guidance on base requests for SPI packs.

11.2.2. The managing ALCs packaging management function may either grant a waiver from the SPI requirements or forward the request to depot packaging to supply the SPI pack by the most economical means. These services should be provided on an exception basis since Air Force funds are an issue (the requester must fund the costs associated with the container manufacture, labor, and transportation costs).

11.2.2.1. If the SPI is waived, the containers used by the using activity should be marked with the waiver number and the SPI number so the substituted container can be reclaimed and used again.

11.2.2.2. DLA depot packing operations are not staffed nor funded to be a volume manufacturer of containers for using activities. Also, some SPIs have design characteristics that are beyond the capability of depot packing operations to manufacture and must be procured from commercial sources.

11.2.3. Based on availability of containers or proximity of the requesting activity to the prospective supplier, the managing ALCs packaging management function will do one of the following:

11.2.3.1. Direct the requester to the depot packing organization at the managing ALC to supply the SPI pack to the requesting activity.

11.2.3.2. Direct the requester to the TRC. The TRC requests the preservation and packing component to supply the SPI pack to the requesting activity.

11.2.3.3. Forward a copy of the SPI and redirect the request to the ALC that has geographical responsibility for providing technical assistance to the requesting activity. The packaging management function requests their depot packing activity to supply the container to the requesting activity.

11.2.3.4. The TRC or ALC that has geographical responsibility will respond to requests by the managing ALCs packaging management function to supply SPI packs. If an SPI pack contains a special packaging design not normally provided by the activity, the depot packing activity at the managing ALC will provide the SPI pack to the requester base once a fund cite has been provided to cover container cost, and transportation charges.

11.2.3.5. Repeated requests for containers (particularly long-life) will be evaluated. The packaging management function should contact the requesting base to determine the cause for the

repeated requests. Activities must be encouraged to reclaim and reuse containers to the fullest extent possible. AF Form 451, **Request for Packaging Service**, prescribed by AFI 24-202, is the vehicle for activities to track container requests. Contact HQ AFMC/LGTT, Traffic Management, for assistance with repeated requests, if necessary.

11.2.3.6. When reparable Air Force assets arrive at a Defense Distribution Depot or other DLA storage facility from a contractor or user, and the packaging requirements are not complied with, the sending contractor or user is responsible for any repackaging costs.

11.3. Support to Other DoD Agencies. Packaging services are developed and performed as specified in DMISAs.

11.4. Depot Packaging Organizations. At the ALCs, continuing coordination between the packaging management functions and depot packing organizations is required. The depot packing functions are aligned with the DLA, but adhere to packaging requirements developed by AFMC when packing Air Force assets.

11.4.1. AFMC Consultation Services Provided to Depot Packaging Operations. Packaging management function personnel will:

11.4.1.1. Provide technical guidance and assistance to depot packing operations in achieving economical packaging, plan for surge requirements, and other related packaging matters. Continuous liaison is required to ensure effective results are achieved.

11.4.1.2. When packaging instructions are not available, provide technical assistance as quickly as possible to avoid shipping delays. This technical input will assist DLA in constructing containers and applying economical packaging materials, dunnage, processes, and procedures.

11.4.1.3. Depot packing and crating organizations may recommend changes in container manufacture and construction, packaging instruction, methods, and techniques to ensure proper preservation and packing of Air Force property. Suggestions that enhance the packaging by improving current packaging methods or reduce cost should be adopted. The packaging management functions will evaluate the packing and crating organization's suggestions to ensure that the integrity of the packaging will be maintained if the suggestion is adopted. However, DLA packing and crating organizations are not to deviate from Air Force prescribed packaging without first obtaining the consent of the ALCs packaging management function.

11.4.1.4. In the interest of DoD economies, packaging management function personnel should continue to provide depot packing supervisors with information that could help them reduce packaging costs. For example, the latest GSA stocklist could be used to compare costs of different packaging materials which serve similar or identical purposes.

11.4.1.5. Emphasize reclamation and reuse of containers and packaging material, placing emphasis on retaining specially designed packs for use in reshipment or return of like items.

11.4.1.6. Provide guidance and assistance to ensure that only material which is adequately protected to withstand local climatic conditions is placed in outside storage.

11.4.1.7. The packaging management function will assist the depot packaging function with interpretations and guidance concerning packaging data, as needed.

11.4.1.8. Assist with packaging requirements as requested.

11.4.1.9. Provide supplemental instructions regarding packaging of disassembled or incomplete items in the specified containers. MDR exhibits are an example of items subject to disassembly. Supplemental instructions may be included in the SPI when disassembled turnins are expected routinely. When supplemental instructions cannot be provided, the packaging management function will review/approve the packaging recommended by the depot packing component.

11.4.2. Packaging Materials Reclamation Groups. Packaging materials reclamation groups assure coordination between the activities that generate the requirement for reusable packaging materials and the activities responsible for reclaiming and reusing them. Periodic meetings with participation from appropriate organizations will ensure the continued effectiveness of the reclamation program, thereby conserving Air Force and DoD funds.

11.4.2.1. Membership. Membership on packaging materials reclamation groups should include the acquisition support flights, depot packaging and storage, product directorates, and other ALC and/or tenant organizations as appropriate to each base. A representative from local DRMO may also be included in the working group. Chairmanship should be determined locally. Since both AFMC and DLA maintain a vested interest in the reclamation program, it may be feasible to rotate or share chairmanship between DLA and AFMC acquisition support flight members. If depot personnel do not initiate efforts to convene a joint AFMC/DLA reclamation group, ALC acquisition support flights will take the initiative to do so.

11.4.2.2. Areas to Monitor/Coordinate. The frequency of meetings can be determined locally. However, it is advisable to meet at least quarterly (or more frequently, as needed) to set up guidelines and monitor progress in areas such as the following:

11.4.2.2.1. On-the-job training to ensure containers are opened and unpacked carefully to avoid damage to containers/components.

11.4.2.2.2. Determining which containers and materials are to be reclaimed and which may be disposed of by using activities.

11.4.2.2.3. Ensuring that reclaimed materials are protected from inclement weather during recovery collection and storage.

11.4.2.2.4. Identifying collecting, screening, and storage sites and ensuring that they are physically separated from refuse, DRMO, and supply pickup sites.

11.4.2.2.5. Responsibility for recovering, collecting, screening, inspecting for assets inadvertently left in containers, and storing containers and materials.

11.4.2.2.6. Ensuring that assets found in reclaimed containers are returned to proper accountability and corrective action is taken to prevent disposal of usable assets.

11.4.2.2.7. Obtaining containers and materials from storage and screening and disposing of excess materials.

11.4.2.2.8. Ensuring that provisions of AFM 67-1, Volume I, Part One, Chapter 10, Section W, is followed for long-life containers and that TO 00-85B-3 is followed for short-life containers.

11.4.2.2.9. Publicizing the benefits from reclamation of containers and packaging materials.

11.4.2.2.10. Assisting with accurate calculated cost avoidance realized from reclamation.

11.4.2.3. Cost Avoidance Calculations. Appropriate reclamation cost avoidance calculations include avoidance realized through reused SPI packs, long-life containers, specification containers, cushioning material, and repaired wooden pallets. Materials that are saved and eventually discarded do not contribute to cost avoidance. The cost avoidance is computed by subtracting the cost of labor and materials used for refurbishment from the replacement cost. Labor, materials, and replacement cost may be established yearly. Other types of cost avoidance may be calculated, but not included in packaging reclamation cost avoidance. Other types include: containers, distribution of serviceable pallets, recovery of items of supply found in containers, and reused lumber.

11.4.2.4. Reclamation Group Meeting Minutes. Meeting minutes must be distributed to appropriate offices and group members. It is advisable to provide a copy of the minutes to AFMC-LSO/LOPP, Packaging Policy and HQ AFMC/LGTT, Traffic Management.

11.5. Prescribed Forms. AFMC 156, AFMC 157, AFMC 158 and AFMC 158A.

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Deputy Director, Directorate of Logistics

Attachment 1

DEFINITIONS AND SOURCES OF PACKAGING GUIDANCE

Commercial Packaging. The packaging methods and materials normally used by the commercial supplier.

Container Design Retrieval System (CDRS). A program located at ASC/VXTC, Attn: CDRS/MO, Building 614, 102 West D Ave, Suite 168, Eglin AFB FL 32542-5313, to provide a DoD centralized data base for storing, retrieving, and analyzing container designs. The purpose of CDRS is to avoid duplication in specialized container design and to promote reuse. DI-PACK-80683 (CDRS Search Request), DI-PACK-80684 (CDRS Data Input), and AFR 71-12, *Obtaining, Storing, and Retrieving Container Design Data,* govern the CDRS.

Corrosion. Deterioration of material due to electrochemical or chemical attack resulting from exposure to natural or induced environmental conditions, or from the destructive attack of fungi or bacteria.

Damage. Breakage, denting, marring, distortion, displacement, or abrasion of an item. The term also applies to the malfunction or inaccuracy of an item having mechanically or electrically/electronically functioning parts or requiring calibration.

Deterioration. The impairment of quality, value, or usefulness of an item.

Electrostatic Discharge (ESD). A transfer of electrostatic charge between bodies at different electrostatic potentials, caused by direct contact or induced by an electrostatic field.

Electrostatic Discharge Sensitive (ESDS) Items. Parts or assemblies that are sensitive to ESD damage.

Fast Pack. A family of standard size, short-life, reusable, cushioned containers. Fast pack design permits shipment of a large number of different items within certain limits of size, weight, configuration, fragility, and environmental reacting characteristics. Reference TO 00-85B-3, *How to Package Air Force Spares,* and Specification PPP-B-1672*, Boxes, Shipping, Reusable with Cushioning.*

Foam-In-Place (FIP) Packaging. The process for making foam cushions, blocking, and bracing by combining two or more liquid urethane components. The foam expands 30-100 times its original volume and encapsulates an article to protect it on all sides. The foam conforms to all shapes and contours of an item while in the semifluid condition before becoming solidified. Barrier material is used to protect critical surfaces from expanding foam. Reference TO 00-85-37, *Foam-In-Place Packaging*.

Hazardous Material/Regulated Article. A substance or material which the Secretary of Transportation determined to be capable of posing unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. This includes all items listed as hazardous in Title 49, CFR, and AFJMAN 24-204.

Hazardous Waste. Any material that is subject to the hazardous waste manifest requirements of the Environmental Protection Agency (EPA) specified in 40 CFR Part 263, and as defined in 40 CFR 261.3.

Long-Life Container. A reusable container, usually made of plastic or metal, that is specially designed to withstand a minimum of 100 round trips. Long-life containers are usually accountable items of supply and are beyond the depot/base capability to construct.

Packaging. Preparing materiel for distribution, transportation, storage, and delivery to the user. The term includes preservation, packing, marking, and unitization.

Packing. Selecting and constructing the shipping container and assembling items or packages therein.

Preservation. Applying protective measures to prevent deterioration, including cleaning, drying, and the use of preservatives, barrier materials, cushioning, and containers, when necessary.

Product Centers:

Aeronautical Systems Center (ASC) Wright-Patterson AFB OH. ASC is responsible for the research, development, test, evaluation, and initial acquisition of aeronautical systems and related equipment for the Air Force.

Electronic Systems Center (ESC) Hanscom AFB, MA. ESC develops and acquires command, control, communications, computer and intelligence systems.

Human Systems Center (HSC) Brooks AFB TX. HSC prepares, maintains, protects and enhances human capabilities and human-system performance. HSC is the Air Force agent for human-centered research, development, acquisition, and specialized operational support.

Space and Missile Systems Center Los Angeles AFB CA. Space and Missile Systems Center designs and acquires space and missile systems. After launch, the center completes satellite on-orbit checkouts before turning them over to other federal agencies.

Reparable Item. An item that can be reconditioned or economically repaired for reuse when it becomes unserviceable. (Depot reparable Air Force items may be identified by ERRC codes C, S, or T; or by ERRC designator XD1, XD2, or ND2 on the shipping document; and by the presence of a material condition tag/label. (See AFM 67-1, Volume 1, Part 4, attachment 27, *ERRC Codes*).)

Reusable Container. A shipping and storage container designed for reuse without impairment of its protective function and which can be repaired and/or refitted. Reusable containers are designed to be used, reclaimed and reused as a complete system, with the possible exception of the wrap or barrier material. (Reusable containers can be either short-life (10 round trips minimum) or long-life (100 round trips minimum.)

Scrap. Wood and fiberboard packaging materials and containers for which the cost of recovery exceeds the value to the government for reuse.

Short-Life Container. A reusable container, normally constructed of wood or fiberboard, that is designed to last a minimum of 10 round trips. Fast packs are examples of short-life reusable containers.

Special Packaging Instruction (SPI). Formerly Transportation Packing Order (TPO). Detailed packaging instructions, usually in a drawing or narrative form, used to construct packages for items requiring special preservation and packing. Normally, SPIs are prepared on DD Form 2169, **Special Packaging Instructions** (MIL-STD-2073-1). A drawing SPI generally consists of a drawing which includes details for special blocking, bracing, cushioning, shock mounts, tiedown devices, and positioning of the item in the pack. An SPI numbering system (described in TO 00-85B-3) identifies fast packs and standard packs, but these packs are not described in a narrative or drawing form.

Standard Pack. A method of preservation, packaging materials, and the shipping container have been standardized. Generally, items chosen for standard packs require less cushioning than those selected for fast packs (reference TO 00-85B-3).

Technology Repair Center (TRC). An Air Force facility designated to repair, modify, or otherwise process a specific item of equipment.

Unitization. Consolidating, or otherwise binding unit, intermediate or exterior packs onto a pallet or load base, so that the load can be handled as a unit through the distribution system.

SOURCES OF GUIDANCE

Current issues of these packaging publications must be available to the base packaging operations. The DoD Index of Specifications and Standards (DODISS) lists the current issue of specifications and standards.

DoDI 4140.1, Materiel Management Policy. Contains the DoD-level policy for establishing and maintaining a DoD military packaging program.

AFPD 24-2, **Preparation and Movement of Air Force Materiel.** Defines overall Air Force policy and responsibilities in the areas of packaging and transportation. Implements DoDI 4140.1 for Air Force packaging programs.

AFI 24-202 (formerly AFR 71-9), Preservation and Packing. Implements AFPD 24-2 and provides overall guidance and responsibilities for Air Force packaging. Provides procedures for establishing and maintaining an Air Force reusable container/reclamation program.

AFJMAN 24-204, Preparing Hazardous Materials for Air Shipment. Joint Service document that describes packaging requirements for military air movement of hazardous materials (formerly AFR 71-4).

AFR 71-6/AR 700-15/NAVSUPINST 4030.28C/MCO 4030.33C/DLAR 4145.7, Packaging of Materiel. Joint service regulation that provides overall direction for DoD packaging. It provides joint service implementation procedures for DoDI 4140.1, and contains information on the Defense Packaging Policy Group (DPPG), the Container Design Retrieval System (CDRS), and DoD Lead Service Test Activities. AFMC-LSO/LOP (AFPTEF) charter is also included, outlining responsibilities as delegated by HQ USAF.

AFR 71-5/DLAR 4145.41 (AFI 24-210), Performance Oriented Packaging (POP) of Hazardous Material. Joint service document that provides guidance on POP for hazardous materials.

AFP 71-19, Logistics Packaging Management and AFP 71-8 (AFPAM 24-207), Preparing Freight for Airlift Transportation. School of Military Packaging Technology (SMPT) texts that provide general information regarding specific areas of packaging.

MIL-P-116, Methods of Preservation. Defines and establishes the requirements for cleaning and drying and describes the basic methods of preservation and their submethods.

MIL-STD-2073-1, DoD Materiel Procedures for Development and MIL-STD-2073-2, Application of Packaging Requirements. Contains procedures for determining the proper method of preservation and for selecting the proper interior and exterior container. MIL-STD-2073-2 contains data codes and their clear-text definitions.

MIL-STD-129, Marking for Shipment and Storage. Establishes container marking and labeling requirements. This document comes in the following four volumes:

MIL-STD-129, *Marking for Shipment and Storage (Part 1 of 4).*

MIL-STD-129-1, *Marking for Shipment and Storage, Ammunition and Explosives (Part 2 of 4).*

MIL-STD-129-2, *Marking for Shipment and Storage, Medical Material (Part 3 of 4).*

MIL-STD-129-3, *Marking for Shipment and Storage, Semiperishable and Perishable Subsistence (Part 4 of 4).*

TO 00-85-3, Corrosion Control for Packaging. Provides technical guidance for the procedures involved in cleaning, drying, preserving, wrapping, cushioning, and placing the item in the unit container.

TO 2J-1-18, Corrosion Control of Gas Turbine Engines, and TO 2R-1-11, Corrosion Control of Reciprocating Aircraft Engines. Provides instructions for preserving and preparing turbine and reciprocating engines for shipment.

TO 00-85-37, Foam-In-Place (FIP) Packaging. Explains techniques and gives guidelines for the application of FIP packaging.

TO 00-85B-3, How To Package Air Force Spares. Provides guidance for packaging items, usually depot reparable, assigned to a fast pack or standard pack. It also explains the fast pack and standard pack SPI numbering systems.

TO 00-110N Series. Applies to the receipt, use, storage, packaging and disposition of radioactive materials.

TO 00-110N-2, Radioactive Waste Disposal. Provides instructions for the disposal of radioactive waste.

Attachment 2

AIR FORCE RECOMMENDED PACKAGING LEVELS OF PROTECTION

Table A2.1.

	Preservation	Packing
Security Assistance/FMS/Grant Aid (unless otherwise directed by country)	A	B
War Reserve Materiel	A	A
War Reserve Materiel (< = lbs and < = 1 cu ft)	A	B
Delivery to Wholesale Depot Stock/CONUS Indoor Storage	A	C
CONUS/Overseas NMCS/999/777	C	C
CONUS/Overseas Outdoor Storage	A	A
Overseas Air Movement	A	B
Overseas Covered Storage	A	B
Overseas Surface Movement	A	A

A2.1. The following factors are to be considered when determining the individual asset protection requirements:

A2.1.1. Intended use (immediate use or storage).

A2.1.2. Destination (CONUS or overseas).

A2.1.3. Mode of movement (air or surface).

A2.1.4. Projected storage type (indoor or outdoor) and known weather patterns (i.e., extreme heat, cold, rain) that may impact asset serviceability.

A2.2. In addition to the above, the packaging specialist may draw on personal expertise and/or any other available technical information when determining appropriate packaging levels.

NOTE:

Retrograde materiel (serviceable/unserviceable) will be packaged to maintain the degree of serviceability of the materiel being returned.

Attachment 3

AIR FORCE PACKAGING TECHNOLOGY AND ENGINEERING FACILTY   (AFPTEF)
ENGINEERING SUPPORT REQUEST

PROJECT NAME: DATE:

ORIGINATOR: RECOMMENDED PRIORITY:

ADDRESS: SYMBOL:

POINT OF CONTACT: TELEPHONE NO:

BACKGROUND:

OBJECTIVES:

ACTION REQUIRED: (Include any pertinent comments that may affect the project, for example, constraints, in-house testing limitations, supporting contractual developments, field testing, essential features, desired features, etc.)

COST CONSTRAINTS: (An example, cost of item, dollar loss being sustained, number in Air Force inventory, project cost, estimate of potential savings, Air Force mission impact, etc.)

NEED DATE/TIMEFRAME:

AFPEA PROJECT NO: (If approved.)*

PRIORITY ASSIGNED:*

ESTIMATED MAN-HOURS:*

ESTIMATED COMPLETION DATE:*

APPROVED/DISAPPROVED:*

COMMENTS:*

*TO BE COMPLETED BY AFMC-LSO/LOP AFPTEF

Attachment 4

PACKAGING CHECKLIST

This checklist provides areas for packaging management function personnel to consider when performing assistance visits.

A4.1. Are publications governing Air Force packaging policy and procedures available and used by responsible management and supervisory personnel?

A4.2. Is a complete and up-to-date set of applicable technical orders, directives, instructions, SPIs, etc., maintained within easy access in the packaging area? Are operating personnel familiar with these?

A4.3. Are the latest special packaging instructions (SPI) on file?

A4.4. Are SFs 364 initiated by this activity fully completed and distributed according to AFR 400-54?

A4.5. Are the discrepancies or damage, cited on SFs 364 against this activity, investigated and discussed by supervisory personnel with all concerned individuals?

A4.6. Are special containers, cushioning, or shock mounts, etc., which are developed for special items identified and saved for reuse in packaging of like items or for unserviceable (reparable) items?

A4.7. Are unserviceable (reparable) items afforded necessary protection to prevent further deterioration or damage during shipment, handling, and storage?

A4.8. Is full use made of used boxes, crates, cartons, metal containers, and other packaging materials? Does the base have an organized program for reclamation of this material? Is the storage area handy and adequate?

A4.9. When containers are reused, are old markings of destination, weight, cube, and other handling instructions obliterated?

A4.10. Are packaging materials properly stored in bins or racks adjacent to the packaging line?

A4.11. Has a scale been incorporated into the packaging line to reduce extra handling?

A4.12. Are packaging, marking, and handling of hazardous materials being accomplished according to AFJMAN 24-204 (formerly AFR 71-4)? Are hazardous cargo shipments separated, packaged, and handled according to 49 CFR and/or AFJMAN 24-204? Are shipments marked with the performance oriented packaging (POP) markings?

A4.13. Are adequate loading rules for trucks and railcars on hand to provide guidance for working personnel in proper loading, blocking, and bracing of Air Force material on carrier's equipment?

A4.14. Are shipments for air movement being processed to obtain maximum protection with the least amount of weight and cube? Are containers selected and used for air shipment according to AFP 71-8, *Preparation of Freight for Airlift Transportation?* (Does not apply to shipments of hazardous cargo.)

A4.15. Is MIL-STD-129 complied with to provide uniform marking of military supplies and equipment for shipment and storage?

A4.16. When material applicable to a specific shipping document is packaged in two or more boxes for shipments, are these boxes serially numbered?

A4.17. Is an active corrosion control program in effect?

A4.18. Is there an active on-the-job training program? Are the packaging courses offered by the School of Military Packaging Technology used?

A4.19. Is care exercised by shop personnel in opening containers to minimize damage to seals, locking devices, mounting, and cushioning?

A4.20. Is there adequate packaging equipment and material to support the mission?

A4.21. Is there an active reusable container/reclamation program available to all base organizations that generate packaging (for example, base packing, DRMO, product directorate, etc.)? Are periodic training sessions conducted?

A4.22. Does the base keep track of container requests using AF Form 451 and attempt to determine reasons for trends and resolve them?

A4.23. Does the base ensure that serviceable containers are not sent to DRMO and that unserviceable containers sent to DRMO are empty?